



**INNO-CHANGE
INTERNATIONAL
CONSULTANTS, INC.**



IMPACTLOOP

Midline Evaluation Report - Tanzania

Impact Evaluation of the Enhancing Quality and Inclusive
Education Project in Ethiopia and Tanzania

Client: Right to Play

February, 2024



TABLE OF CONTENTS

List of Tables	4
ABBREVIATIONS	5
EXECUTIVE SUMMARY	7
Context	7
Evaluation Questions	7
Methodology	7
Results	8
Conclusion	10
CHAPTER 1 BACKGROUND	12
1.1. Context	12
1.2 The Project	13
In Tanzania, the project was implemented in 30 primary schools supporting teaching and learning in grades 1 to 4. About 262 grades 1-4 teachers have received professional development support (training, coaching/mentoring, teaching, and learning materials, peer learning) in using playful learning pedagogy for literacy and SEL skills improvement, provided over a three-year period. Local education officials were trained on and supported with financial resources and tools to provide ongoing coaching and mentoring to teachers in the project schools and other schools within the district.	14
1.2 Evaluation Objectives	14
1.3 Methodology	14
1.3.1 Tools	15
1.3.2 Sampling and Sample Size	16
1.3.3 Analysis	17
CHAPTER 2 RESULTS	19
2.1 Evaluation Question 1. What is the causal effect of the EQIE project on the midline levels of literacy and SEL skills?	19
2.1.1 Reading Skills	19
2.1.2 Socio-emotional Skills	26
2.2 Evaluation Question 2. What is the state of teachers' pedagogical practice in the classroom? Is there any marked difference in teacher pedagogical practice between the treatment and comparison groups?	32
2.3 Evaluation Question 3. Does the PBL in-service TPD under the EQIE project lead to improvements in learning outcomes or intermediate indicators towards improved learning outcomes in treatment schools? If so, how?	41
2.4 Evaluation Question 4. What are the key characteristics of schools that are able to effectively implement the PBL pedagogy compared to those that are not able to?	46



2.5 Evaluation Question 5. What is the potential impact of after-school supplemental learning activities on improving learning outcomes in treatment schools?	47
2.6 Evaluation Question 6. Is there early evidence that local partners and government partners have the capacity (institutional, financial), positive attitude, and ownership mindset to continue the pedagogical practices, and safe/inclusive learning environment activities of the project?	51
CHAPTER 3 CONCLUSION & RECOMMENDATION	56
3.1 Conclusion	56
3.2 Recommendations	57
3.3 Limitations	59
REFERENCES	61
Appendix 1. List of metrics, baseline value, and source of information	62
Appendix 2. Demographic details of the midline sample	68
Appendix 3. Field Implementation Report	68
Appendix 4. Properties of residuals	72
Appendix 5. Key OLS regression results table	73
Appendix 6. Predictors of Classroom Observation	76
Appendix 7. Detailed Analysis of EGRA/ISELA	77
Appendix 8. Detailed Analysis of Changes in Pedagogical Practices	81
Appendix 9. Children's safety tables	87
Appendix 10. Program Theory Assessment Results	89
Appendix 11. Baseline ISELA Test Questions	93
Appendix 12. Validation workshop report	98



List of Tables

Table 1: Literacy and SEL skills midline results.....	8
Table 2: Planned & Actual Sample Size.....	16
Table 3: EGRA Letter Knowledge	20
Table 4: Results of EGRA Phonetic Awareness Subtest, by Treatment and Control Group	20
Table 5: Average number of words identified correctly	21
Table 6: Results of EGRA Unfamiliar Words	22
Table 7: Results of EGRA Reading Subtest, by Treatment and Control Group	22
Table 8: Reading Fluency	23
Table 9: Results of EGRA Reading Comprehension, by Treatment and Control Group	23
Table 10: Stress Management (3 points).....	26
Table 11: Empathy skills or respect for others (11 points)	26
Table 12: Problem-solving skills (4 points)	28
Table 13: Self-concept (8 points)	29
Table 14: Social relationships (11 items).....	29
Table 15: Collaboration score (4 items).....	30
Table 16: ISELA score (out of total 70 points)	31
Table 17: Classroom quality details.....	33
Table 18: Awareness about PBL methodologies	34
Table 19: Teachers who provided productive time to children at least once a week.....	35
Table 20: Techniques teachers use to ensure student discipline.....	36
Table 21: Reading-specific activities in the classroom (% of teachers who applied the technique)	42
Table 22: Reading activities involving children	42
Table 23: Parental perception on school safety (scale of 1 to 5 where 1 means strongly disagree and 5 means strongly agree)	45
Table 24: Participation in project activities.....	47
Table 25: Additional reading support for children at home.....	48
Table 26: List of metrics, baseline value, and source of information.....	62
Table 27: Demographic details of midline sample	68
Table 28: Expected and actual frequency	69
Table 29: EGRA/ISELA Frequency Details	69
Table 30: List of enumerators.....	70
Table 31: List of government staff involved	71
Table 32: Household literacy environment	77
Table 33: Stress management and empathy.....	78
Table 34: Perseverance and attention span.....	79
Table 35: Dealing with conflict.....	79
Table 36: Self-awareness concept	80
Table 37: Changes in pedagogical practices.....	81
Table 38: Children's safety at home and in community	87
Table 39: Children's safety in school.....	87
Table 40: Children's safety from adults	88
Table 41: Baseline ISELA Test Questions.....	93
Table 42: Key comments, questions and suggestions.....	98



ABBREVIATIONS

CSO	Civil Society Organization
CwD	Children with disabilities
DAP	Developmentally appropriate practices
DID	Difference-in-difference
EGRA	Early Grade Reading Assessment
EQIE	Enhancing Quality and Inclusive Education Project
FGD	Focus Group Discussion
FGM	Female genital mutilation
GBV	Gender-based violence
HCI	Human Capital Index
IDELA	International Development and Early Learning Assessment
INEE	Inter Agency Network for Education in Emergencies
IRR	Inter-rater reliability
ISELA	International Social and Emotional Learning Assessment
ITT	Intended to Treat
KII	Key Informant Interview
LMIC	Low and middle income countries
MEL	Monitoring, evaluation and learning
MoE	Ministry of Education
OLS	Ordinary Least Squares
PBL	Play-based learning
PTA	Parent Teacher Association
RCA	Reflect, connect and apply
RTP	Right to Play
SEL	Socio-emotional skills
SIC	School Inclusion Committee
SMC	School Management Committee



THT	Tafakari, Husisha, Tumia (Think, relate, use)
ToR	Terms of Reference
TPD	Teacher Professional Development
WP	Work package
WPM	Words per minute



EXECUTIVE SUMMARY

Context

Right to Play (RTP) is executing a five-year Enhancing Quality and Inclusive Education (EQIE) initiative in five countries (Ethiopia, Lebanon, Mozambique, Palestine, and Tanzania) from January 2020 to December 2024. The project's primary goal was to enhance the overall learning results of boys and girls, including children with disabilities, in target educational institutions, by strengthening teachers' knowledge and pedagogical skills using play-based learning instructional approaches. The project also supported activities to build a culture of reading in the targeted schools/communities, create a safe and inclusive learning environment in schools, and campaign to enrol out-of-school girls and children with disabilities. Impact Loop, in partnership with Inno-Change International Consultants, carried out a midline assessment of the project, concentrating on two countries: Ethiopia and Tanzania. This report presents and discusses findings for **Tanzania's** midline evaluation.

Evaluation Questions

The six evaluation questions are presented below. The first five questions assess project impact; the sixth evaluates the sustainability of the project.

1. What is the causal effect of the EQIE project on the midline levels of literacy and socio emotional (SEL) skills among grade 4 students in Ethiopia and Tanzania?
2. What is the state of teachers' pedagogical practice in the classroom? Did the project trigger any improvement in pedagogical practices?
3. Does the Play Based Learning (PBL) in-service teacher professional development under the EQIE project lead to improved learning outcomes or intermediate indicators towards improved learning outcomes in treatment schools? If so, how?
4. What explains the key characteristics of schools that can effectively implement the PBL pedagogy compared to those that are not able to?
5. What is the potential impact of after-school supplemental learning activities on improving learning outcomes in treatment schools?
6. Is there early evidence that local partners and government partners have the capacity, positive attitude, and ownership mindset to continue the pedagogical practices and safe/inclusive learning environment activities of the project?

Methodology

The team utilised a rigorous impact evaluation technique by adopting a quasi-experimental evaluation design and combining quantitative and qualitative instruments. For the midline assessment, data were gathered from 40 schools, with 20 schools being part of the project and the other 20 schools not being part of the project in Tanzania. The selection of the 30 project schools for implementation of the EQIE project was made in collaboration with local government authorities to target schools requiring assistance. Additionally, 20 comparable non-project schools were chosen purposefully to act as a comparison group.

We employed several tools to compile data on student's learning outcomes, teaching practices, and changes in behaviours among stakeholders, especially parents. We employed EGRA to assess reading skills, and ISELA to assess socio-emotional skills among grade 4 children who were a part of the baseline study when they were at grade 1. All parents of children who were included in the test were interviewed regarding their behaviours and perceptions towards children/school. Independent government assessors were mobilized to conduct classroom observations in both project and non-project schools. Teacher, Principal, and Community Member Surveys collected viewpoints on teaching and learning techniques in project and non-project schools. In addition, qualitative interviews and discussions were conducted to gain more insights.



The team adhered to the sample size and sampling procedure developed during the baseline investigation in 2020. To facilitate meaningful comparisons, adjustments were made to maintain a sufficiently large sample size for the EGRA/ISELA skill assessments. The data for the midline study was gathered from October 12 to 21, 2023. The training for all enumerators consisted of a 5-day workshop, which incorporated two days of piloting and practical exercises. We used difference-in-difference and intend-to-treat effects estimators on the quasi-experimental design to assess whether the changes were statistically significantly different. A grounded theory approach was used to conduct qualitative data analysis.

Results

Evaluation Question 1. What is the causal effect of the EQIE project on the midline levels of literacy and SEL skills?

The EQIE project significantly increased students' reading and socio-emotional skills in the project schools compared to non-project schools. The experiment provided compelling evidence linking the changes in reading abilities to three cognitive reading skills (phonetic awareness, invented or unfamiliar words, and reading comprehension) and all socio-emotional skills (SEL). Not only did the average score on the reading and socio-emotional skills improve, but the variation in the scores was also significantly lower for project schools compared to non-project schools. This suggests that the project was able to narrow the difference in scores between high and low performers. Girls in project schools were likely to have higher reading scores compared to boys in the project as well as non-project schools, a result that was the reverse at baseline where boys performed better than girls on some reading skills. We found that girls in project schools were more engaged in the teaching learning process and were provided with more opportunities to take a leadership role compared to boys and compared to non-project schools. However, the project missed out on opportunities to be more intentional about improving SEL skills for certain groups: children who faced adversities (such as need to be engaged in paid labor) in family and school scored lower in their SEL skills regardless of whether they studied in project school or non-project.

Table 1: Literacy and SEL skills midline results

Sub-Tests ¹	Midline		Is the difference significant? *
	Project	Non-project	
Reading comprehension (out of 10 points)	9.7 (0.75)	7.2 (2.44)	Yes. In all three metrics, project schools performed significantly better where baseline figures were equivalent for project as well as non-project schools.
Reading Fluency (words per minute)	65.9	40.7	
ISELA score (out of 70 points)	53.83 (8.92)	30.51 (12.08)	
Classroom quality score (out of 50)	40.2	20.3	

Note: Statistical significance based on a p-value of 0.05 or less. The values in parenthesis are standard deviations.

¹ In the table above, 'reading comprehension' represents the average number of correct answers (out of 10) on questions related to reading comprehension. The 'ISELA score' is an index, scored out of 70, that encompasses various factors including stress management, empathy, perseverance, attention span, conflict resolution, and self-concept. Meanwhile, the 'classroom quality score' is an index measured during classroom observation, which evaluates participatory learning aspects such as teacher and student behaviour, as well as the utilization of play-based and RCA teaching approaches.



Evaluation Question 2: What is the state of teachers' pedagogical practice in the classroom? Did the project trigger any improvement in pedagogical practices?

The independent classroom observations conducted by the independent assessors found significant improvements in the pedagogical practices employed in project schools' classrooms compared to non-project schools. The project schools had a teaching-learning practice quality score that was twice as high as the non-project schools. In the classroom observation quality indicator, project schools, on average, received 40.2 points compared to 20.3 points for non-project schools. The disparities were mainly in the classroom teaching and learning process rather than school infrastructure and amenities' availability. Teacher's awareness and ability to deliver play-based learning was much higher compared to the non-project schools (classroom quality score of 40 points compared to 20 points). Although Play Based Learning (PBL) was successfully implemented with good quality, there was already a sign of decline in the propensity of the regularity of use PBL use in some project schools. It was difficult for teachers to apply PBL on a regular basis because of a large class size, limited availability of materials, limited time to prepare to run a class, and low of capacity on the part of some teachers to adapt and deliver PBL on their own. On top of that, teachers were not adequately recognised or incentivised to apply PBL strategies. However, on average 66% (Female - 67.7%; Male - 64.2%) of teachers in project schools compared to 30% in non-project schools demonstrated improved instructional skills in adoption of PBL strategies for literacy and life skills at midline.

Evaluation Question 3. Does the PBL in-service Teacher Professional Development (TPD) under the EQIE project lead to improvements in learning outcomes or intermediate indicators toward improved learning outcomes in treatment schools? If so, how?

Changes in the reading and socio-emotional skills of children can be attributed to the project's interventions. Teachers in project schools applied PBL techniques, and frequently used activities to provide more opportunities for children to read inside the classroom. During the qualitative discussion, all stakeholders agreed that the improvement in reading skills is due to increased student attendance, and improved participation in the classroom's teaching and learning processes. Children in project schools received several opportunities to practise reading in school and at home. Stakeholders noted that there is room to improve the rigour of the PBL training, make it more aligned with reading skills and the elementary curriculum, and be more intentional about identifying and improving socio-emotional skills.

Evaluation Question 4. What are the key characteristics of schools that can effectively implement the PBL pedagogy compared to those that are not able to?

The improvements in reading skills and socio-emotional abilities, attributed to the project, were not significantly different for individual schools. It suggests that the average reading skills score and SEL skills score improved regardless of which individual project school the child attended. The statistical results on treatment effects remained significant even after accounting for school-fixed effects. It suggests that the project could be replicated in any school. However, it does not mean that school-level factors were not important. School leadership and active participation of the school management committee made a difference in the support teachers received to apply PBL in the classroom, and in ensuring a safe learning environment in schools.

Evaluation Question 5. What is the potential impact of after-school supplemental learning activities on improving learning outcomes in treatment schools?

While the qualitative data indicates that supplemental activities have been advantageous, there is no clear quantitative evidence that the supplemental activities were directly



contributing to improved reading and socio-emotional skills. Initially, nearly all children in the project schools participated in the activities without any discernible extra effects in the data. The activities aimed at enrolling children with disabilities and other out-of-school learners were successful, and the PBL activities helped to keep these learners motivated about going to school. However, there were several bottlenecks. We do not have evidence on what part of the increase in reading skills could be attributed to the reading centres or reading clubs. The community-level reading centres, run through volunteers, were difficult to manage and regularly operate. According to both quantitative and qualitative data, the community-level awareness campaigns were least impactful, except for those targeted to bring out-of-school children back to school which had a variable impact.

Evaluation Question 6. Is there early evidence that local partners and government partners have the capacity, positive attitude, and ownership mindset to continue the pedagogical practices, and safe/inclusive learning environment activities of the project?

The data shows a short-run change in the behaviors of parents, teachers, and school management committees. Compared to the baseline and non-project schools, more parents in project schools supported children in learning activities by providing reading materials and hours to dedicate to reading. Teachers have started to communicate more effectively with children, and encourage children's participation, especially that of girls, in the classroom teaching learning process. However, all of this is happening while EQIE is actively monitoring and supporting schools. Without their support, the results are unlikely to be sustained. Despite being involved in the project and valuing the project interventions, school leadership rarely took leadership to steer PBL on their own. In its current structure, it is less likely that the local government and schools would be able to continue the initiatives on their own.

Conclusion

The findings showed that children's socioemotional and reading abilities had improved significantly and were linked to the EQIE initiatives. More crucially, the quasi-experimental study shows that children in elementary school (grades 1–4) may enhance their reading and socio-emotional abilities by using a play-based learning strategy. Given that Tanzania is a nation where the education system and schools do not have enough funding to help their pupils, this discovery is encouraging. Furthermore, by reducing the range in children's foundational reading and SEL scores, the approach also demonstrated its use in delivering equitable results for children.

Although the project succeeded in meeting its desired outcomes, in its current format, it is not entirely scalable through the government mechanism, and would require further refinement. There are three main reasons behind it. First, to maintain the current level of reading and SEL levels, schools, teachers and parents would need to continue their existing behaviours which are largely driven by financial/technical resources mobilised by the project. It might be beyond the scope of the project schools that are struggling to arrange basic school infrastructure. Second, in absence of EQIE, local governments and schools are not prepared enough to continue the interventions on their own, financially and administratively. Although the training of local trainers and the availability of government assessors to monitor classroom performance would help, it will be challenging to keep teachers motivated to invest additional time and energy for PBL without recognizing, incentivizing, and supporting them through the formal mechanism. EQIE would need to think about trimming and refining the project and its theory of change to optimise sustainability and scalability together with the effects on reading and SEL skills.



Recommendations

We urge EQIE to deep dive on the evaluation results and collaborate with national offices to develop recommendations based on the findings and conclusions. Here are some potential recommendations drawn from the midline evaluation:

Strengthen

- **Update project goals to be laser-focused on reading skills and socio-emotional learning**, so that they leverage areas of EQIE's expertise, and collaborate with other actors/agencies to acquire support in other areas. For the next phase, we recommend focussing on interventions inside the school instead of targeting the entire community and introduce 'leave no one behind' as an add-on component targeted to schools in need of such support.
- **Strengthen MEL practices to continuously inform and update the theory of change** by shifting the focus of monitoring from compliance to outcomes, and prioritising observable metrics over self-reported metrics.

Scale

- **Scale in-service TPD on PBL and reading clubs to more schools in collaboration with local government by making the following changes:** i) advocate to integrate PBL in the government's pre-service teacher training curriculum, (ii) continue the work to secure alignment of the PBL training and material development with the school curriculum, (iii) advocate to integrate PBL related elements in teacher performance evaluation in the spirit of alignment between PBL and school curriculum, and (iv) create or strengthen ongoing school-based supervision and support mechanisms to keep teachers motivated to apply PBL.
- **Set up a mechanism to identify, trim and scale successful project components** by breaking the project into different components and running experiments accordingly to identify more precisely which elements in the project were valuable in driving the results.



CHAPTER 1 BACKGROUND

1.1. Context

Foundational skills are critical to young children's educational success. Proficiency in literacy, numeracy, and social-emotional learning provides the fundamental building blocks for academic achievement across subjects and grade levels and equips children with essential skills to navigate the world around them and become active members of society. Yet globally, estimates suggest that by the age of ten, nearly 3 out of 5 children (57%) will be unable to read a simple text designed for their age ([World Bank, 2022](#)). Children from marginalised groups, including girls and learners with disabilities, are even more at risk of not developing the necessary skills for school success, due to attitudinal and environmental barriers that hinder their access to education and quality learning. This points to an urgent need to strengthen all learners' access to quality education in the early years, including through age-appropriate curriculum and strategies, such as play-based pedagogy and teacher professional development ([Bendini & Devercelli, 2022](#)).

Play-based learning (PBL) is a crucial avenue for fostering the holistic development of children, particularly those from vulnerable communities. Research suggests that play not only enhances cognitive abilities and academic performance but also cultivates vital social-emotional skills critical for navigating diverse environments ([Jensen et al., 2019](#)). In East Africa, PBL has been used to effectively support marginalized communities, especially those learners affected by displacement, conflict or violence (Play Matters, & Sesame Workshop, 2023). However, challenges persist, notably rooted in misconceptions among educators and parents regarding play's efficacy as a pedagogical tool ([UNICEF, 2021](#)). Addressing these challenges necessitates comprehensive teacher professional development initiatives aimed at equipping educators with the knowledge and skills to effectively integrate play-based methodologies into their teaching practices ([Mendenhall et al., 2021](#)). Further, teaching and learning environments in many LMICs are often inconducive to play-based pedagogies, due to overcrowding or limited access to teaching and learning materials (Bendini & Devercelli, 2022). Therefore, creating enabling school and policy environments is imperative to institutionalize and sustain the incorporation of play-based pedagogies (Mendenhall et al., 2021), ensuring equitable access to quality education for all children.

Tanzania country context

Tanzania, situated in East Africa, has made significant progress over the years in improving its education system and the country's broader economic development. However, despite important advancements, several challenges persist. For example, the Human Capital Index (HCI) for Tanzania is around 0.39, indicating that a child born today in Tanzania can expect to reach 39 percent of his or her full potential at age 18 (World Bank, 2021)². This value is much less than the global average of 0.60 and is also lower than the African average. There is also a relationship between education and poverty: 35% of households headed by persons having lower than a primary level of education are poor. Further, records show that educated girls in Tanzania benefit from high-quality education in terms of their adulthood earnings (World Bank, 2021).

Creating a safe environment for children and reducing disparity are the two top priorities of the primary education sector in Tanzania (World Bank, 2021). Despite these commitments, many children in Tanzania are still not accessing quality and inclusive educational opportunities.

² The Human Capital Index is an annual measurement prepared by the World Bank. HCI measures which countries are best in mobilizing their human capital, the economic and professional potential of their citizens. It is a composite of education enrolment, harmonized learning scores, health, and nutrition.



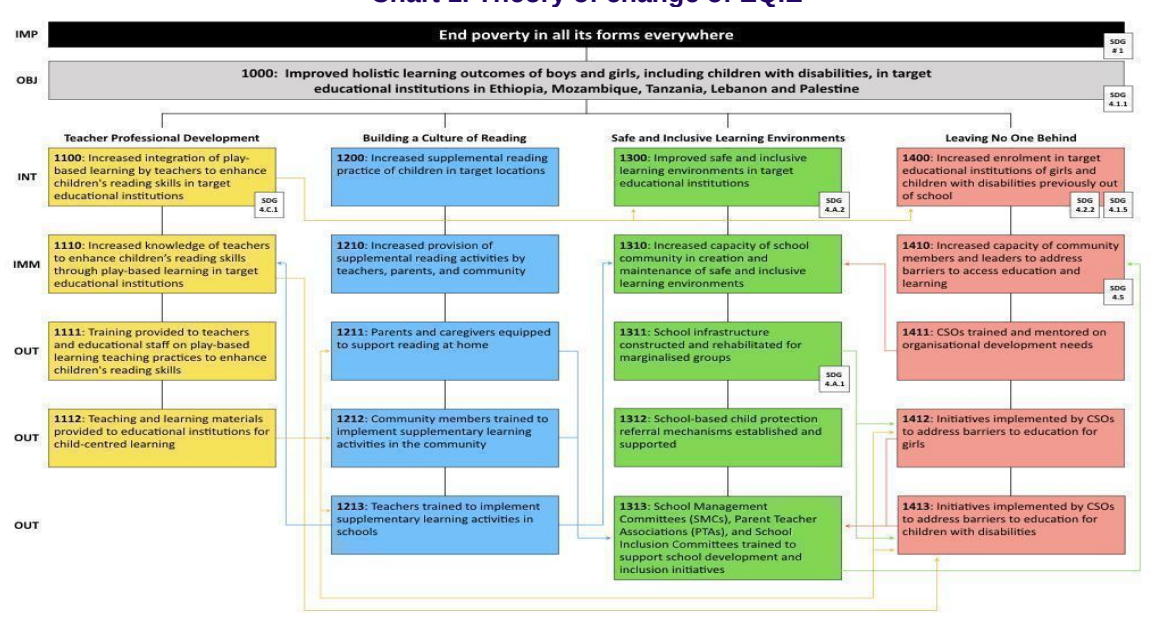
According to the most recent data, from 2020, only 3 in 4 children (74%) complete primary school, with completion rates much higher for boys than for girls (84% compared to 69% respectively) (UNESCO-UIS, 2023). Further, data shows that various types of violence persist in schools, with prevalence higher for girls (Elimu, 2020). Children from rural and poor communities, or marginalized groups, such as children with disabilities or special needs are also less likely to stay in school than their peers. In 2020, 167,834 children in primary school dropped out for a range of reasons, including not having enough time to study at home (World Bank, 2021).

Recognizing these challenges, the government of Tanzania has made efforts to improve the quality of education through curriculum and teacher-focused reforms. For example, the introduction of the competency-based curriculum, and accompanying teachers' guides, textbooks, and additional curricular materials, emphasise activity-based and play-based approaches (Mendenhall et al., 2021). However, teaching and learning environments are often overcrowded, under-resourced, and insufficiently supported, creating barriers for play-based learning (ibid). While there is a clear need to invest more in education, government spending declined from 19% to 17.9% over the period of 2017-2020. The government is trying to achieve more from a lower budget when the top priorities for the country are clear. To support the government in its efforts, Right to Play has implemented the Enhancing Quality and Inclusive Education (EQIE) project.

1.2 The Project

Right to Play (RTP) has been implementing a five-year long EQIE project in five countries (Ethiopia, Lebanon, Mozambique, Palestine, and Tanzania) from January 2020 to December 2024. The primary objective of the project is to improve the holistic learning outcomes of boys and girls, including children with disabilities, in target educational institutions by increasing teachers' knowledge and improving their pedagogical skills. The project assumes that the improvement in holistic learning achievement is manifested through improved reading skills and socio-emotional skills. EQIE supported starting and/or maintaining already existing reading clubs to increase children's participation in supplemental reading activities inside and outside school. Additionally, EQIE expected to collaborate with civil society organizations to bring children with disabilities and girls back to school (See Appendix 10 for the detailed program theory assessment).

Chart 1. Theory of change of EQIE





In Tanzania, the project was implemented in 30 primary schools supporting teaching and learning in grades 1 to 4. About 262 grades 1-4 teachers have received professional development support (training, coaching/mentoring, teaching, and learning materials, peer learning) in using playful learning pedagogy for literacy and SEL skills improvement, provided over a three-year period. Local education officials were trained on and supported with financial resources and tools to provide ongoing coaching and mentoring to teachers in the project schools and other schools within the district.

1.2 Evaluation Objectives

The midline impact evaluation sought to draw causal conclusions about the effects of two critical aspects of the EQIE project on improving teaching quality and students' learning outcomes (in reading and SEL skills):

- In-service teacher professional development through training, coaching, and mentoring, and professional learning communities/communities of practice in play-based learning (PBL) pedagogy, and
- After-school supplemental learning activities at the community and household level.

Evaluation Questions. The priority for the midline evaluation was to examine the impact and sustainability of the project. The evaluation answers the following questions:

Impact

1. What is the causal effect of the EQIE project on the midline levels of literacy, and SEL skills among grade 4 students in Ethiopia and Tanzania?
2. What is the state of teachers' pedagogical practice in the classroom? Is there any marked difference in teacher pedagogical practice between the treatment and comparison groups?
3. Does the PBL in-service teacher professional development under the EQIE project lead to improved learning outcomes, or intermediate indicators (e.g., teacher literacy instructional quality, positive classroom climate, etc.) towards improved learning outcomes in treatment schools? If so, how?
4. What explains the key characteristics of schools that can effectively implement the PBL pedagogy compared to those that are not able to?
5. What is the potential impact of after-school supplemental learning activities on improving learning outcomes in treatment schools?

Sustainability

6. Is there early evidence that local partners and government partners have the capacity (institutional, financial), positive attitude, and ownership mindset to continue the pedagogical practices and safe/inclusive learning environment activities of the project? What are the key factors or risks that are likely to affect the persistence of positive effects of the EQIE project in the short, medium, and long term?

1.3 Methodology

We applied rigorous impact evaluation methodology employing quasi-experimental evaluation design with a mixed use of quantitative and qualitative tools. For the midline evaluation, we collected data from 40 schools (20 project and 20 non-project schools). The project schools were picked in consultation with local government officials to cover schools that are in the need of support, and additional 20 non-project schools were selected purposefully to serve as their comparison. The schools were equally distributed in two districts - Tarime and Serengeti. The project schools benefited from the direct project support while the comparison schools, hereafter called 'non-project schools' did not receive any project intervention. During the



baseline, characteristics related to schools, teachers, parents and children in both types of schools were more or less similar.

1.3.1 Tools

The following are the tools that we utilized for the midline study.

Early Grade Reading Assessment (EGRA)

EGRA, short for Early Grade Reading Assessment, is a tool used to evaluate the reading abilities of young students in the initial years of primary education. EGRA evaluates fundamental reading abilities, including letter identification, phonemic sensitivity, decoding, fluency, and reading comprehension. In this study, the EGRA included four primary subtests, namely i) letter knowledge, ii) phonetic awareness, iii) familiar and unfamiliar (or invented) words, and iv) reading fluency and comprehension. Following the normal EGRA administration standards, the test stopped if the child was unable to reply to even the first 5–10 items correctly; these pupils received a "zero score" on that subtest. Giving no response at all was considered not responding correctly.

International Social and Emotional Learning Assessment (ISELA)

The ISELA is a specialised instrument developed to evaluate the proficiency of students in social and emotional learning (SEL) abilities. SEL encompasses the cultivation and comprehension of one's emotions, the establishment and sustenance of healthy relationships, the exercise of responsible decision-making, and the proficient management of conduct. As such, ISELA assesses a range of SEL abilities, including self-awareness, self-control, empathy, interpersonal skills, and making responsible choices. The examination offers valuable insights into students' social and emotional aptitudes, enabling educators to identify specific areas that require improvement and interventions to enhance students' overall well-being and social-emotional growth. ISELA is a scenario- and performance-based measure designed to assess the development of self-concept, stress management, perseverance, empathy, relationship management, and conflict resolution in children ages 6 - 12 years old. It is intended to provide data for program monitoring and evaluation purposes. In this study, seven SEL skills were assessed using an adapted tool specifically for this study. The SEL skills are (i) stress management, (ii) empathy or respect for others, (iii) perseverance or concentration, iv) conflict resolution or problem solving, (v) self-concept or self-confidence, (vi) teamwork or collaboration, and (vii) social relationships or communication. During baseline, stress management was not included as a core element of ISELA. In each skill, scenarios and questions were presented to the children. They either gave narrative responses or responded to a scale.

Parental Survey

During the midline study, we conducted a survey with parents of each child included in the reading and SEL assessment. The survey with parents covered the socio-economic status of the family, parental attitudes towards education, and parenting practices.

Classroom observation

We mobilised government assessors to conduct classroom observation in both project and non-project schools during the midline study. The classroom observations, conducted randomly, compiled information on the actual teaching-learning practices inside the classroom.



Teacher, Principal & Community Member Survey

During both the baseline and midline evaluations, surveys were conducted with teachers, principals, and community members in project schools. During the midline, we also surveyed teachers in control schools to get a comparative perspective of teaching and learning practices.

Qualitative discussions and interviews

To obtain a deeper understanding of various stakeholders' perceptions, we conducted focus group discussions with parents and school management committees (SMCs), in-depth interviews with teachers, and in-depth interviews with selected children and their parents.

1.3.2 Sampling and Sample Size

We followed the sample size and sampling strategy adopted during the baseline study. For the reading/SEL skill tests, replacements were made to ensure that the sample size remained big enough to make the comparison possible. The replacements were made randomly from the available population of children once the enumerators did not find a baseline child in the school, with a recorded attrition rate of 50% (details outlined in the following section). It is to be noted that the random selection might have been a better choice given that during the baseline, it was observed that school/teachers might have sent better students to take tests. We interviewed parents or caregivers of all children who were included in the tests. The following table provides details on the expected and actual samples.

Table 2: Planned & Actual Sample Size

Tools	Who is responsible?	Expected Sample Size		Actual Sample Size	
		Treatment	Control	Treatment	Control
EGRA/ISELA	Enumerators	400	400	377	370
Matched students from baseline	--	--	--	193	162
Teacher survey	Lead enumerator	40	20	35	19
School leader survey	Lead enumerator	20	20	20	20
Parents/Caregivers Survey	Enumerators	400	400	377	370
Classroom observation form	Education officers	40	20	42	22
Teacher's mood metre	Education officers	40	20	42	22
School information form	Lead enumerator	20	20	15	13
In-depth interview with teachers	Qualitative researchers	10	-	10	-
FGD with school stakeholders	Qualitative researchers	10	-	6	-
FGD with parents/caregivers	Qualitative researchers	10	-	6	-
Case study interview with children	Qualitative researchers	5	-	5	-
Case study interview with caregivers	Qualitative researchers	5	-	5	-



KII with government officials	Country consultant	4	-	2	-
KII with EQIE staff	Country consultant	4	-	5	-

The midline study data was collected during October 12 - 21, 2023. All enumerators were trained in a 5-days long workshop that also included 2 days of piloting and practice (see Appendix 3 for field implementation report).

1.3.3 Analysis

The quantitative data analysis utilised a parametric T-test for the comparison of means between project and non-project schools, and a Difference in Difference (DID) estimator to estimate the Intention to Treat (ITT) effects whenever the data on a metric was available for project schools and non-project schools during baseline and midline.

Intention to Treat (ITT) analysis assuming baseline equivalence

Assuming that the estimates for the outcome metrics were equal during the baseline for the selected project and non-project schools, we applied a basic ordinary least square (OLS) regression model to estimate the effect of the project on the outcome variables such as EGRA and ISELA score. We controlled for the socio-economic status of the family, district, number of siblings, parental education, participation in project activities, availability of reading materials at home, parental rating of school safety, parental rating of accessibility of schools, especially for children with disabilities, and parental rating of gender equality in schools.

$$Y_i = \beta_0 + \beta_1 \cdot Treatment + \theta \cdot X_i + e_i \dots\dots\dots (1)$$

Where Y_i is the dependent variable, i.e., EGRA/ISELA or learning outcomes, X_i is a set of confounding variables, i denotes an individual observation, β_1 is the effect size of the treatment interacted with after (variable denoting the pre- and post-intervention periods) compared to all other alternatives, and e_i is the standard error.

Difference in Difference (DID) Estimator

We used a DID estimator for the analysis merging baseline data with the midline data. We predicted whether the difference in difference is statistically significant after controlling for the girl or boy, socio-economic status of the family, district, number of siblings, parental education, participation in project activities, availability of reading materials at home, parental rating of school safety, parental rating of accessibility of schools, especially for children with disabilities, and parental rating of gender equality in schools.

$$Y_i = \beta_0 + \beta_1 \cdot Treatment * After + \theta \cdot X_i + e_i \dots\dots\dots (2)$$

Where Y_i is the dependent variable, i.e., EGRA/ISELA or learning outcomes, X_i is a set of confounding variables, i denotes an individual observation, β_1 is the effect size of the treatment interacted with after (variable denoting the pre- and post-intervention periods) compared to all other alternatives, and e_i is the standard error.

There was more than 50% attrition between the baseline and midline children (54% for students in project schools and 57% for non-project schools). The attrition was because of not being able to trace the children based on their names and ids, and the drop out from schools and movements. Although there was attrition, the attrition was random, not different for project and non-project schools, and was not systematically triggered. The results were no different for children who were tracked from the baseline and the children that were added as a



replacement during the midline. It means that the attrition did not affect results, and the analysis on DID remains valid regardless of attrition. Despite a high rate of attrition, the diagnostic analysis shows that results from the study are well powered and unbiased.

In all key regression models applied in the analysis, there was no multicollinearity to the extent to affect the results. The variance inflation factor was less than 10 which shows that the variables are not heavily correlated with each other. The only two variables that were heavily correlated were treatment (project schools) and participation in project activities such as reading clubs and reading centres. The tests conducted to check whether the models meet Gauss-Markov assumptions revealed that the errors were normally distributed (See Appendix 4 for the properties of unexplained factors in the model or the residuals/error). The models had a decent r-squared value (above 0.20) which meant the model explained at least 20 percent variance in the outcome variables. However, the model suffers from heteroskedasticity (a pattern in the error related to the confounding variables) and omitted variable bias (a test showing that the model misses some confounding variables). We used robust standard error to minimise the effect of heteroskedasticity. For the tests, we also examined inter-rater reliability picking sample metrics from within the tests. We found a high kappa inter-reliability score (0.93 points or higher) for the sampled metrics. Usually, an inter-rater agreement higher than 0.71 is considered decent. It shows that raters were aligned on their ratings.

Qualitative Analysis

We used a combination of deductive and inductive analysis tools to determine themes from the data and draw out themes from domains of inquiry. All qualitative data, open-ended survey questions, key informant interviews (KIIs), and focus group discussion (FGD) responses were analysed using a rapid-analysis approach. Open-ended survey responses were aggregated into the document by a stakeholder group for further coding and analysis. All recordings were transcribed and translated into English before beginning the analysis. The research team employed contribution analysis techniques to decipher the extent to which the outcomes can be attributed to the activities of the EQIE project. Upon completing the qualitative data analysis, researchers summarised the findings by country and research question and integrated them into the final report.



CHAPTER 2 RESULTS

We have organised study results by the evaluation questions identified for the study³.

2.1 Evaluation Question 1. What is the causal effect of the EQIE project on the midline levels of literacy and SEL skills?

Summary

Based on the data available from the baseline and midline for project and non-project schools, we found that the EQIE project contributed to significantly increasing the reading and socio-emotional skills among children in the project schools. There was solid evidence that the changes in the reading skills could be attributed to the project, specifically for core reading skills (phonetic awareness, familiar words, invented or unfamiliar words, and reading comprehension), and all socio-emotional skills. It can also be inferred that – for certain reading skills – the project helped reduce learning disparities across children, based on sex, socio-economic status, or parental education level, ultimately contributing to more equitable learning outcomes across project schools (especially in letter knowledge, phonetic awareness, and reading fluency/comprehension).

Results

2.1.1 Reading Skills

EGRA results consist of four skills: i) letter knowledge, ii) phonetic awareness, iii) familiar and unfamiliar (or invented) words, and iv) reading and reading comprehension.

Reading Skill 1. Letter Knowledge

Letter knowledge refers to a child's understanding and recognition of the letters of the alphabet, regardless of the language. It assesses the child's ability to identify and name letters, both in isolation and within words. We asked children to identify the letters they were provided within 60 seconds.

During the midline, 99% of children in project schools were able to identify the letters correctly compared to 92% of children in non-project schools. The percentage of children who could identify all the letters correctly was significantly higher for children in project schools compared to non-project schools and compared to the baseline⁴. At the baseline, children were able to read at least 90% of the 24 letters, which means that, on average, 90% of children read at least five (5) letters in the first 30 seconds (not triggering the early stop rule). The number of letters read incorrectly also significantly decreased for children in project schools compared to non-project schools and compared to the baseline. While the change in the average number of letters read between baseline and midline was not significantly different for project schools and non-project schools, given the ceiling effect, it is important to note that the standard deviation for children in project schools remained lower compared to the non-project schools

³ Any study observations outside of the direct purview of the study questions have not been presented in the report.

⁴ In this study, a significant difference in estimates means that the null hypothesis of no difference between the project and non-project school or baseline vs midline can be rejected with 95% confidence level.



(see Table 3). It infers that the project was not only able to increase the average letter knowledge score, but it also contributed to reducing the disparity in scores among children.

Table 3: EGRA Letter Knowledge

Sub-Tests	Baseline (Grade 1)		Midline (Grade 4)		Is the difference significant?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
Read Correctly (out of 24)	21.7 (3.63)	21.6 (3.49)	23.7 (2.29)	22.1 (4.39)	Yes, midline figures are significantly different.
Read Incorrectly	2.3 (3.63)	2.4 (3.49)	0.3 (0.27)	1.9 (3.22)	

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of whether the difference was significant was performed using two-tailed t-test assuming equal variances in population.

Although the t-test for difference showed that project schools had a significantly higher mean score and difference compared to the baseline and compared to non-project schools, after controlling for all other confounding variables, we found that there is no treatment effect on the letter knowledge, or the effect is very small. The difference in difference estimator was also not significant. It is largely because children in grade 4 hit the ceiling effect in letter knowledge. During the midline, children in both project and non-project schools were highly proficient in identifying the letters. Interestingly, there was a differential impact of the project on girls. Girls in project schools were likely to correctly identify one more letter compared to all other children, after controlling for all key confounders⁵ (See Appendix 5 for the detailed results).

Reading Skill 2. Phonetic Awareness

Phonetic awareness in EGRA pertains to a child's capacity to comprehend and manipulate spoken language's auditory or sound elements. During this subtest, students were given ten (10) words and were asked to identify the phonetic sound of the initial letter of each word. Children in project schools had significantly higher phonetic awareness scores compared to children in non-project schools. The difference in scores compared to the baseline was significantly higher for project schools compared to non-project schools. During the midline assessment, children in project schools, on average, recognized 9 sounds (90%) compared to only 3 sounds (30%) for the children in non-project schools. During the baseline, children in project schools and non-project schools correctly recognized 6 sounds (60%) and 6.1 sounds (60%) respectively. We saw a similar pattern in the number of sounds incorrectly identified. Children in project schools made significantly fewer mistakes in recognizing a sound compared to children in non-project schools (Table 4). Like the results in the letter knowledge score, the standard deviation for children in project schools remained lower.

Table 4: Results of EGRA Phonetic Awareness Subtest, by Treatment and Control Group

Sub-Tests	Baseline (Grade 1)		Midline (Grade 4)		Is the difference estimator significant?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
Phonemes correctly identified	6 (4.27)	6.1 (4.58)	9.4 (1.63)	3.4 (3.49)	Yes, there is a significant difference between project and non-project schools in the midline.
Phonemes incorrectly identified	4 (4.27)	3.9 (4.58)	0.6 (1.61)	6.38 (3.44)	

⁵ The confounders included in the multivariate OLS linear regression model were as follows: socio-economic status of the family, district, number of siblings, parental education, participation in project activities, availability of reading materials at home, parental rating of school safety, parental rating of accessibility of school especially for children with disability, and parental rating of gender equity in schools.



Difference in phonetics score			2.90 (5.25)	-3.95 (4.31)	The DID estimator is also significant.
-------------------------------	--	--	----------------	-----------------	--

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. Standard deviation in parenthesis. The test of significant difference was performed using two-tailed t-test assuming equal variances in population. The difference in difference scores might be different than the difference of means between two categories as they are pulled from a matched sample not the total sample available for midline and baseline.

The multi-variable regression estimates controlling for several confounders also confirmed the results from the t-test. On a 10-point scale, the children in the project school were likely to score 5 more points than the control school students after controlling for confounders. Girls in general were likely to score lower. However, for the project schools, they were able to reverse. Girls in treatment schools were likely to score 0.7 points higher in the phonetics score compared to all children in the non-project schools. Like the observation in letter knowledge, the results suggest that girls disproportionately benefited from the project. In general, children from lower socioeconomic families were likely to score lesser in the phonetics score except for the project schools where there was no difference in score by the socio-economic level.

Reading Skill 3. Familiar and Unfamiliar (Invented) Words

The **Familiar Words** subtest helps to assess a child's sight word recognition and comprehension skills, which are important foundations for reading fluency. A child was shown a list of 46 words, typically increasing in difficulty, and was asked to read them aloud or answer questions related to their meaning. During the midline, children in project schools identified significantly more familiar words compared to children in non-project schools: 44.9 words on average compared to 34.4 words for children from non-project schools (see Table 5). However, when compared with the baseline benchmark data (45.1 words) taken from a small sample of grade 4 children, the average number of words identified by children in project schools was not significantly different. Like earlier reading skills, the standard deviation for children in project schools remained lower compared to the non-project schools.

Table 5: Average number of words identified correctly

Sub-Tests	Baseline (Grade 4)		Midline (Grade 4)		Is the difference significant?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
Number of words identified correctly	45.1 (1.59)	--	44.9 (4.39)	34.4 (13.20)	During the midline, there was a significant difference in the scores between project and non-project schools. Midline scores were not statistically different from baseline.
Number of words identified Incorrectly	0.9 (1.59)	--	0.6 (1.22)	2.3 (2.82)	

Note: * significant at 1%, * significant at 5%, and ~ significant at 10%. No data for the control group at the baseline. Standard deviation in parenthesis. The baseline values presented in the table for the treatment group comes from the benchmarking data collected from a small sample of grade 4 children during the baseline.

After controlling for several factors affecting the score, we found that children in the project schools were likely to identify six more familiar words compared to children in non-project schools. It is surprising that there was no significant difference compared to the baseline. Because the standard deviation was very small in the baseline data, it might be that the benchmarking data was collected from a non-random sample of children, probably already good at reading.

The **Unfamiliar Words (also called Invented Words)** sub-test assesses the child's ability to decode and read unfamiliar words accurately and fluently. In the test, children were presented with a list of 50 words that they were unlikely to have encountered before. These words are



often chosen for their complexity or rarity, making them unfamiliar to most young readers. Children in project schools, on average, identified significantly more invented words compared to the children in non-project schools: 47.8 words compared to 28.7 words by children in non-project schools (see Table 6). Because the test on unfamiliar words was not included during the baseline study, there is no baseline data available to compare. Similarly, the average number of words incorrectly identified by children in project schools was significantly lower than the children in non-project schools: 0.60 words compared to 4.30 words for children in non-project schools. The variance in unfamiliar words score was significantly lower for project schools compared to non-project schools.

Table 6: Results of EGRA Unfamiliar Words

Sub-Tests	Baseline		Midline (Grade 4)		Is there a significant difference between control and treatment?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
Words correctly read	--	--	47.8 (7.87)	28.7 (17.71)	Yes, there is a significant difference between the treatment and control group.
Words incorrectly read ⁶	--	--	0.6 (1.17)	4.3 (4.30)	

Note: * significant at 1%, * significant at 5%, and ~ significant at 10%. No data available on invented words during the baseline. Standard deviation in Parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population. The sum of the number of correctly read and incorrectly read words does not tally to 50 because not all students attempted all 50 words.

The multiple variable OLS regression results show that children in the project schools were likely to read 14 more unfamiliar words compared to children in non-project schools, after controlling for several confounded variables as mentioned above. For both familiar as well as non-familiar words, sex of the child neither determined the score nor was there a disproportionate effect of the project on girls. We found that children with more siblings at home obtained better results particularly when it comes to recognition of invented words. It might be because having more siblings will give access to reading materials outside of their textbook and grade-specific reading materials.

Reading Skill 4. Reading Accuracy, Fluency & Comprehension

Reading accuracy

The reading subtest provides insight into the student's ability to decode words, understand and comprehend texts, and read fluently. The assessment typically measures letter and word recognition, decoding, fluency, vocabulary, and comprehension. A reading passage in Swahili was presented to children and they were asked to read aloud. The reading score of children in project schools was significantly higher than the children in non-project schools: almost all children (99.7%) in project schools could read the reading passage compared to 93% of children. The score also saw a significant increase compared to the baseline benchmarks. During baseline, 96% of children in project schools were readers (read more than 5 correct words in the 30 seconds) (see Table 7). The percentage of non-readers in project schools diminished to zero. It suggests that there are no children in project schools who cannot read a simple passage.

Table 7: Results of EGRA Reading Subtest, by Treatment and Control Group

Sub-Tests	Baseline (Grade 4)		Midline (Grade 4)		Is there a significant difference?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
Reader – Can Read	95.5%	--	99.7%	93%	

⁶ Please note that not all students attempted all 50 words because of which the average number of correct and incorrect responses do not add up to 50.



Non-reader – read more than five words incorrectly in the first 30 seconds of the test	4.5%	--	0.3%	7%	Yes, there is a significant difference between project and non-project schools.
--	------	----	------	----	---

Note: * significant at 1%, * significant at 5%, and ~ significant at 10%. No control data available from baseline. Standard deviation in parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population.

Reading fluency

The children in project schools could read significantly more words per minute compared to children from non-project schools. Their reading speed for common words was on average 49 compared to 33 words for children in non-project schools (see Table 8). While reading a passage, children in project schools could read 66 words correctly in a minute compared to 41 words per minute for children in non-project schools. The children from project schools also meet the Kishwahili national benchmark for the reading speed, i.e. 50 correct words per minute for the reading passage, and 40 correct words per minute for unfamiliar words⁷.

Table 8: Reading Fluency

Sub-Tests	Baseline (Grade 4)		Midline (Grade 4)		Is the difference significant?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
Reading speed for most common words (wpm)	-	-	48.5 (7.5)	32.7 (0.9)	Yes, project schools are significantly better than non-project schools.
Reading speed for invented words (wpm)	-	-	45.5 (4.0)	36.5 (12.7)	
Reading speed while reading a passage (wpm)	47.4	-	65.9 (20.5)	40.7 (20.3)	

Note: * significant at 1%, * significant at 5%, and ~ significant at 10%. No data available from baseline. Standard deviation in parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population.

Children in project schools were likely to read 8 words more per minute compared to children in non-project schools. Although children from a family with a higher parental education were able to read more words, the project had a disproportionate effect on children with lower parental education. In project schools, the children with lower parental education were also able to read more words compared to children in non-project schools.

Reading comprehension

Reading comprehension was assessed by asking children to answer questions after reading a passage. The grade 4 children in project schools scored significantly higher in reading comprehension score compared to children in the non-project schools. During the midline, grade 4 students in project schools were able to get 9.7 out of 10 (or 97%) comprehension questions correct compared to 7.2 out of 10 (or 72%) for children in non-project schools. More importantly, 98% of children in project schools (compared to 53% of non-project schools) qualify as readers because they could correctly answer 8 out of 10 comprehension questions.

Table 9: Results of EGRA Reading Comprehension, by Treatment and Control Group

Sub-Tests	Baseline (Grade 4)	Midline (Grade 4)
-----------	--------------------	-------------------

⁷ EdDataII (2014) Proposing Benchmarks for Early Grade Reading and Mathematics in Tanzania, accessible through: https://pdf.usaid.gov/pdf_docs/PBAAF448.pdf, USAID.



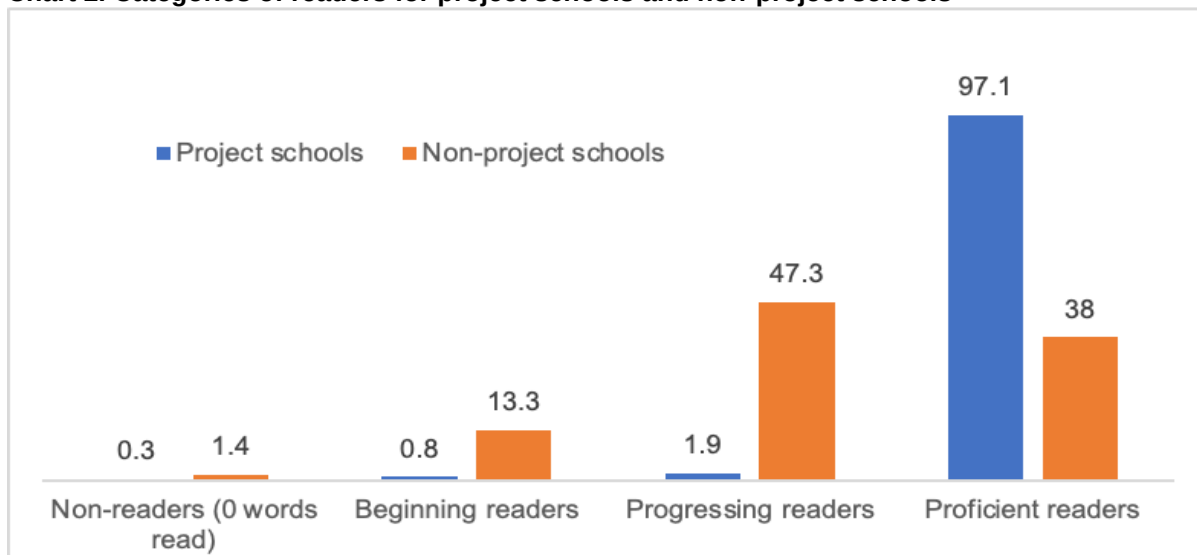
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	Is the difference significant?
Correct Response (out of 10)	8.6 (1.86)	--	9.7 (0.75)	7.2 (2.44)	Yes. The difference between baseline and midline, and treatment and control is significant
Incorrect response (out of 10)	1.2 (1.71)	--	0.3 (0.64)	2.4 (2.23)	
% of students qualifying as readers with comprehension (RWC) ⁸	76.9%	--	98%	53.3%	

Note: * significant at 1%, * significant at 5%, and ~ significant at 10%. No control data available from baseline. Standard deviation in parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population.

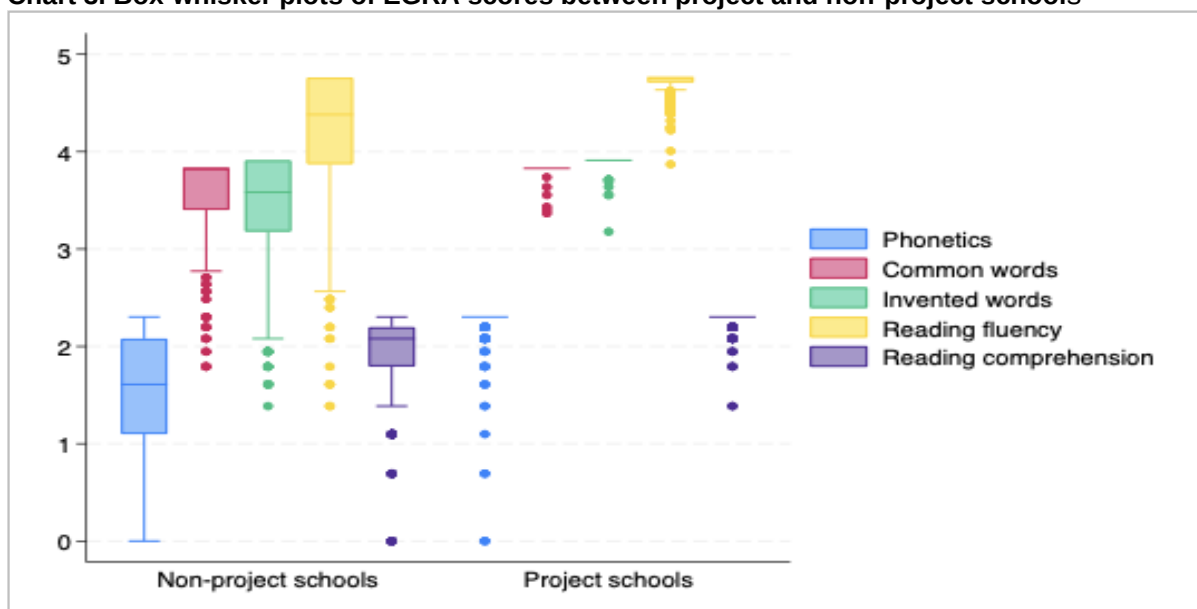
The results from the t-test remained true also when controlled for key confounders. Children in project schools were likely to answer 3 more reading comprehension questions (30% more) correctly compared to children from non-project schools. Children from families with educated parents were more likely to score 0.44 higher in the reading comprehension score. More interestingly, a child from a project school with a lower parental education was likely to score higher compared to all children from control schools. It suggests that the project was able to reverse the likelihood of children with poorly educated parents scoring poorly in reading comprehension.

We also discovered that 98% of students in project schools and 53% in non-project schools demonstrated reading comprehension, defined as correctly answering at least 8 out of 10 comprehension questions. The disparity between the two groups was statistically significant. This marks a substantial improvement compared to the baseline findings, where only 76.9% of students in project schools met the criteria for reading comprehension. We also divided children into four categories of readers: (i) non-readers - unable to read a single word of the passage, (ii) beginning readers - read between 1 to 29 words of the story in one minute, (iii) progressing readers - read at least 30 words per minute, and (iv) proficient readers - read more than 50 words per minute with comprehension score at least 80%. Based on the categorization, a large majority of children in project schools are proficient readers (97%) compared to non-project schools (38%) (see Chart 2).

⁸ Student was a reader and correctly answered at least 80% of reading comprehension questions

**Chart 2. Categories of readers for project schools and non-project schools⁹**

To better understand the nature of scores and differences between project and non-project schools, we looked at the distribution of scores by plotting box-whisker plots. The plots clearly show that the nature of the distribution was completely different between project and non-project schools. In project schools, the scores not only were higher on average, but they also distributed less and were hitting the ceiling effect (i.e., most of the students scored the maximum score possible). For non-project schools, we could see the natural distribution of scores around the mean. The lower variation suggests more equitable outcomes.

Chart 3. Box-whisker plots of EGRA scores between project and non-project schools

Source: EGRA results from midline 2023, by test domains in a logarithmic scale

⁹ The categorization is based on the study conducted by USAID. Among grade 3 students, the study found the following distribution: 16.1% non-readers, 47.8% beginning readers, 30.8% progressing readers, and 5.3% proficient readers. The children in non-project schools also performed better compared to the national average because the sample taken for the evaluation includes children who completed the academic year at grade 4 and were in the transition to grade 5.



2.1.2 Socio-emotional Skills

ISELA results consist of seven skills: (i) stress management, (ii) empathy or respect for others, (iii) perseverance or concentration, (iv) conflict resolution or problem-solving skills, (v) self-concept or self-confidence, (vi) social relationship or communication skills, and (vii) teamwork or collaboration skills.

SEL skill 1: Stress management

Stress Management focuses on a student's capacity to recognise and successfully handle stress. For ISELA's stress management, the children were asked three (3) questions about what they do when they get angry or upset. The results suggest a significant change in the project schools compared to the non-project schools and compared to the baseline scores in stress management. Although the score also got better for children in non-project schools as they moved from grade 1 to grade 4, the increase was significantly higher for the project schools (0.91 points compared to 2.5 points, respectively) (Table 10). The increase was 1.6 points higher for project schools compared to 0.5 points for non-project schools, compared to the baseline. There were no specific predictors of the stress management score other than the project intervention itself.

Table 10: Stress Management (3 points)

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
Stress management (3 items)	0.9 (1.1)	0.5 (0.5)	2.5 (0.81)	1.1 (1.09)	Yes. The DID estimator is significant. Midline values are significantly different between project and non-project schools.
Stress management (%)	30.3%	16.7%	83.3%**	36.7%	
Improvement in stress score from baseline	-	-	1.59** (1.38)	0.46 (1.21)	
% of children who improved from the baseline	-	-	87.9%**	77.7%	

Note. ** significant at 1%, * significant at 5%, and ~ significant at 10%. Standard deviation in parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population, at 95% confidence level.

SEL Skill 2: Empathy or respect for others

Empathy refers to the capacity to comprehend and share the emotions of others. It is often tested in ISELA by evaluating a student's comprehension of other people's feelings and perspectives, capacity to respond compassionately to others' needs, and showing positive and supportive conduct toward others. In this study, four (4) scenarios were presented to children, and they were asked to respond accordingly on what they felt in these four scenarios. Children in the project schools scored significantly higher compared to children in non-project schools for all empathy items (See Table 11). During the baseline, the scores were not significantly different for children in project schools and non-project schools. This suggests that the project helped children to perform better in empathy skills.

Table 11: Empathy skills or respect for others (11 points)

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
Empathy A (3 items)	1.8 (1.21)	1.8 (1.16)	2.8 ** (0.61)	1.5 (1.99)	Yes, children in project schools



Empathy B - (2 items)	1 (0.95)	1 (0.95)	1.5 ** (0.83)	0.6 (0.86)	improved more compared to children in non-project schools. There is a significant difference between project and non-project schools during the midline.
Empathy C - (3 items)	1.5 (1.22)	1.4 (1.25)	2.8** (0.48)	1.6 (1.08)	
Empathy D - (3 items)	0.9 (0.95)	1 (0.95)	1.4** (0.88)	0.4 (0.71)	
Empathy score (%)	47.3%	47.3%	77.3%	37.3%	
Improvement in empathy score from baseline to midline	-	-	3.5** (3.98)	-0.9 (4.27)	
% of children who improved compared to baseline	-	-	68.4%**	34.6%	

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. Standard deviation in parenthesis. The test of significant difference was performed using two-tailed t-test assuming equal variances in population.

After controlling for all key confounders, the children in the project schools were likely to score 5 points more in a ten-point skill score compared to children in non-project schools. Interestingly, children of parents who considered the school to be gender-friendly were also the one that scored higher in empathy. The scores were not different for different levels of parental education, socio-economic status, girls/boys, and district of implementation.

SEL Skill 3: Perseverance or concentration

Perseverance and attention span test a student's ability to keep concentration, exert effort, and persist in pursuing objectives or finishing assignments. In ISELA, persistence and attention span are often assessed using a range of markers. This involved evaluating a student's level of participation during classroom activities or assignments, such as their ability to stay focused and ignore distractions. To test perseverance, we asked children to draw four images. Based on the data, we found that there is a significantly higher proportion of children in project schools who completed all 4 drawings within the 60s compared to the children in non-project schools (see Table 11). It is to be noted that the percentage was equal during the baseline, when children were allowed to draw without time limits.

Table 11: Perseverance or concentration (4 points)

ISELA Components	Baseline (Grade 1 untimed)		Midline (Grade 4, Timed at 60s)		Is the difference significant?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
% of children who completed all 4 drawings	57.0	58.0	38.9**	9.2	Yes, the difference was significant during the midline but not during the baseline.
% completed drawing 1 in 60s	-	-	51.8**	25.6	
% completed drawing 2 within 60s	-	-	50.7**	22.2	
% completed drawing 3 within 60s	-	-	51.4**	28.6	
% completed drawing 4 within 60s	-	-	45.5**	24.6	
Average perseverance score	3.4 (0.90)	3.4 (1.03)	2.0** (1.86)	1.0 (1.36)	

Note. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a two-tailed t-test assuming equal variances in population. In the baseline, there was no time limit of 60s set, hence the scores were higher than midline. Because of the same reason, we did not check whether a child improved compared to the baseline.



The odds of a child from the project schools drawing all four pictures were 145% higher than children from non-project schools. The project had a positive effect on children with a lower parental education. The children in project schools with a lower parental education had 45% more odds of drawing all four pictures compared to children in all other categories (especially children of education parents in non-project schools).

SEL Skill 4. Conflict resolution or problem-solving skills

Conflict resolution or the problem solving of the ISELA evaluated children's capacity to handle and resolve problems in a positive and productive way. In ISELA, conflict resolution was assessed using a variety of questions, like "What would you do in this situation?". Children in project schools were significantly better than children in control schools in solving conflicts. Although they were nearly equal during the baseline, the difference in difference from baseline to midline was significantly larger for project schools compared to non-project schools. (1.9 vs 1.2 out of 2 in the first problem, and 1.6 vs 0.9 out of 2 in the second problem) (see Table 12).

Table 12: Problem-solving skills (4 points)

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
Solving conflict, A (2 items)	1.3 (0.82)	1.4 (0.79)	1.9 ** (0.32)	1.2 (0.82)	Yes, the DID estimator is significant. There is a significant difference in the midline values of project and non-project schools while the baseline values are not different.
Solving conflict, B (2 items)	1.4 (0.86)	1.4 (0.86)	1.6** (0.69)	0.9 (0.88)	
Solving conflict score (%)	50.7%	52.9%	84.3%**	36.0%	
% children who answered all 4 correctly	35.8%	35.8%	67.5%**	13.9%	
Difference in conflict score from baseline to midline			1.3**	-0.8	
% of children who improved compared to the baseline			54.9%	26.5%	

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. Standard deviation in parenthesis. The test of significant difference was performed using a two-tailed t-test assuming equal variances in population.

Children in project schools were likely to score 1.5 more points (on a 4-point scale) compared to children in the non-project schools. The children in project schools excelled by 1.3 points while the children in non-project schools regressed by 0.8 points compared to the baseline. Although there was no differential impact of the project on girls in resolving conflict, girls were more likely to have better conflict resolution skills compared to boys. Interestingly, children involved in project activities in and outside of the school such as reading clubs were more likely to score higher in conflict resolution skills, maybe because of more opportunities to interact and collaborate with others.

SEL Skill 5. Self-Concept or self-confidence

Self-concept refers to an individual's perception and understanding of themselves, including their beliefs, attitudes, and values. The ISELA tool used in this study included scenarios related to: i) self-esteem, ii) self-efficacy, iii) self-awareness, and iv) self-identity. Although the self-awareness concept score was almost equal or lower for the treatment during the baseline, the percentage of children who could draw correctly and involve themselves in the drawing was significantly higher for project schools during the midline (97% in project schools compared to 90.8% in non-project schools) (see Table 13).

**Table 13: Self-concept (8 points)**

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the difference significant?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
Self-Concept A – % of children who attempted the drawing correctly	75.9%	77.2%	97.0%	90.8%	Yes, the DID estimator is significant, and the midline values are significantly different. The baseline values are equal.
Self-Concept B – % of children who include themselves in the drawing correctly	67.9%	70.3%	95.0%	90.6%	
Self-concept score (up to 8 points possible)	3.10 (2.84)	3.19 (3.00)	6.8** (1.97)	4.6 (2.57)	
Difference in self-concept score from baseline to midline			3.6** (3.65)	1.2 (3.35)	
Self-concept score (%)	38.8%	39.9%	84.8%**	57.8%	
% of children who improved compared to the baseline			74.6%**	55.6%	

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a two-tailed t-test assuming equal variances in population.

Children in the project schools were likely to score two points higher in their self-concept score compared to children in the non-project schools. Children with parents with higher education status were likely to score more in their self-concept skills compared to children with parents with lower education status while children with families speaking Kurya language were likely to score less compared to children speaking other languages. More importantly, we found that the project effects were higher for children from households with lower socioeconomic status compared to those from households with higher levels of socio-economic status. It means that the project had a larger effect on poor families/children compared to richer families in the project schools. Just having materials or parental perception about school safety did not really matter nor did the extent of participation in project activities (- there was generally high participation rate in project activities).

SEL Skill 6: Social relationships or communication

Social relationship skills cover a child's ability to seek out assistance from friends, family, or other trusted adults when sad or having problems with others. We asked children what they would do at home or school when feeling sad, and check whether they are aware about ways of getting necessary help in such situations. In a two-tailed t-test of average social relationship score, children in project schools received significantly higher social relationship scores (9.0 points out of 11 points) compared to children from non-project schools (6.41 points out of 11 points). The changes from the baseline to midline were also significantly better for children in project schools (see Table 14).

Table 14: Social relationships (11 items)

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the DID significant?
	Project (N=362)	Non-project (N=346)	Project (N=412)	Non-project (N=425)	
% of children who talk to someone in the family when they are sad	82.9%	91.4%	93.5%**	60.9%	Yes. The DID is significant. The midline values are significantly different
% of children who talk to friends at home or school when they are sad	63.2%	69.8%	86.2%**	66.8%	



ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the DID significant?
	Project (N=362)	Non-project (N=346)	Project (N=412)	Non-project (N=425)	
Social relationship score (up to 11 points possible)	7.63 (2.98)	7.60 (2.80)	9.0** (1.59)	6.41 (2.82)	between project and non-project schools. Baseline values are equal.
Difference in social relationship score from the baseline			1.41** (3.45)	-1.21 (3.89)	
Social relationship score (%)	69.4%	69.1%	81.8%**	58.1%	
% of children who improved in social relationship score			54.4%**	32.7%	

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a two-tailed t-test assuming equal variances in population, at 95% confidence level.

The results from a multivariable OLS regression model that controlled for several confounders such as age, sex, number of children in the family, household size, and various ratings of school found that children in project schools were likely to score 2.77 points more in the social relationship score compared to non-project schools. The children in project schools are likely to see 2.90 points increase in the social relationship score from baseline compared to the non-project schools. Children who had access to reading materials were likely to score higher on the social relationship and the children who had a high-risk profile were likely to score less. No other confounders were significant predictors of the social relationship score.

SEL Skill 7: Collaboration and teamwork

We asked children how they show teamwork, and also asked whether/how they collaborate with their classmates. There were four questions asked to children. During the baseline, there was no difference in the collaboration score between children from project schools and non-project schools. During the midline, the mean score was significantly higher for project schools (3.69) compared to non-project schools (2.77). In a two-tailed t-test, the magnitude of improvement from baseline to midline (Difference in Difference) was also significantly higher for project schools (1.05 points) compared to non-project schools (0.11 points).

Table 15: Collaboration score (4 items)

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the DID significant?
	Project (N=362)	Non-project (N=346)	Project (N=412)	Non-project (N=425)	
Collaboration score	2.64 (1.36)	2.67 (1.26)	3.69** (0.54)	2.77 (1.09)	Yes. The midline score and the DID estimator was significantly different between project and non-project schools. The baseline values were equal.
Difference in the collaboration score			1.05** (1.60)	0.11 (1.46)	
Collaboration score (%)	65.9%	66.7%	92.1%**	69.5%	
% of children who improved compared to the baseline		-	60.1%**	37.7%	

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. Standard deviation in parenthesis. The test of significant difference was performed using a two-tailed t-test assuming equal variances in population.

When controlled for several confounding variables, the improvement in collaboration score from the baseline to midline was 1.32 points higher for project schools compared to non-project schools. There were no other confounding variables that significantly explained the difference between project and non-project schools.



We created a comprehensive ISELA score index compiling all items under ISELA described above. In the aggregated score (1-70 scale), during midline, children in project schools scored 53.83 points compared to 30.51 points for the children in non-project schools. During the baseline, children in project schools had equal scores compared to children in non-project schools (see Table 16). The difference in difference estimator shows the intended to treat (ITT) effect size of the project on ISELA was 1.17SD. It suggests that the project was able to move children at least one standard deviation away from their mean of total ISELA score.

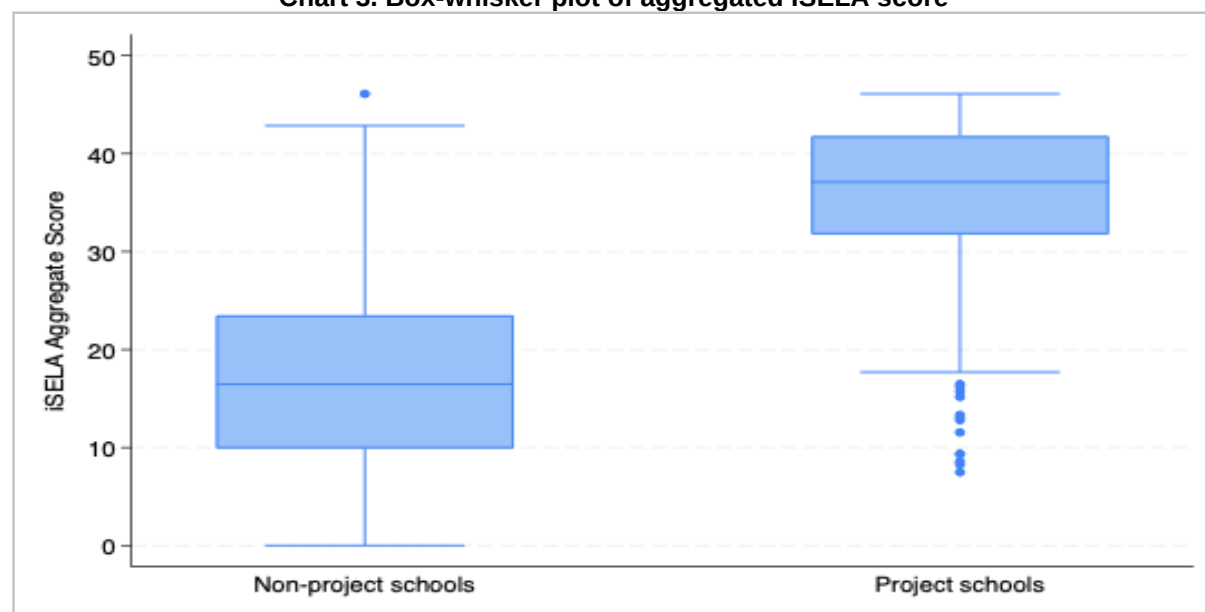
Table 16: ISELA score (out of total 70 points)

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=362)	Non-project (N=346)	Project (N=411)	Non-project (N=420)	
ISELA score	29.54 (14.43)	28.52 (11.77)	53.83** (8.92)	30.51 (12.08)	Yes, the DID is significant. The midline values are significantly higher for project schools.
Difference in ISELA score from baseline to midline	-	-	22.56** (17.38)	2.09 (15.92)	
ISELA score (%)	53.1%	51.7%	74.5%**	43.6%	
% of children who demonstrated life skills¹⁰	34.7%	35.2%	34.2%**	18.5%	
% of children who improved in ISELA score	-	-	78.2%**	39.5%	
% of boys who improved their ISELA score	-	-	78.2%**	39.5%	
% of girls who improved their ISELA score	-	-	80.8%**	30.3%	

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a two-tailed t-test assuming equal variances in population, at 95% confidence level.

Unlike EGRA, ISELA score was distributed evenly in both project and non-project schools.

Chart 3. Box-whisker plot of aggregated ISELA score



Source: ISELA index from midline 2023, by test domains

¹⁰ Children who had no zero score in any of the sub-components of ISELA.



In general, a higher parental education was associated with a higher ISELA score. The project was able to reverse the situation for children with a lower parental education: they were likely to score 2 points more than all other children. **Children on a higher risk profile or facing more adversities were also likely to score low. However, the project did not have any differential impact on children with a low-risk profile. Regardless of whether the children came from project schools or non-project schools, children with a higher risk profile were likely to score lower in ISELA.**

Challenges & bottlenecks

EGRA score hit the ceiling effect for Grade 4 children in project schools. Because there was not much variation in the reading skills data for project school children, there was no opportunity to identify sub-skill areas that the PBL methodology should target or not.

Adversities facing children affected their SEL skills. Children who faced adversities, such as engagement in labour, emotional trauma, and corporal punishment, had lower SEL skill scores compared to children who did not face these sorts of challenges. There is a need to expand the project's approach of equity to cover adversities faced by individual children and help them navigate and/or respond to these challenges, possibly through the support of their parents, peers, and social networks.

2.2 Evaluation Question 2. What is the state of teachers' pedagogical practice in the classroom? Is there any marked difference in teacher pedagogical practice between the treatment and comparison groups?

Summary

We see a big jump in the overall pedagogical practices in the classrooms of project schools compared to non-project schools. The overall teaching-learning practice quality score from the classroom observations was twice as high in the project schools compared to non-project schools. In the classroom observation quality index, project schools, on average, received 40.2 points compared to 20.3 points for non-project schools. The differences were largely in the classroom teaching and learning process, more than school infrastructure and facilities. On average 66% (Female - 67.7%; Male - 64.2%) of teachers in project schools compared to 30% in non-project schools demonstrated improved instructional skills in adoption of PBL strategies for literacy and life skills at midline

Results

Classroom teaching and learning practices have improved. The overall classroom performance index, as measured during the classroom observation, was significantly higher for project schools compared to non-project schools. All teachers in the project schools reported having a lesson plan before they started teaching in the class compared to 75% of teachers in non-project schools. Among the project schools, 95% had included play-based learning (PBL) strategies in their lesson plans, compared to 41% of teachers in non-project schools. Interestingly, not all teachers in project schools used PBL strategies (20 - 50%) while almost a quarter of teachers (between 13-40%) in non-project schools did¹¹. Nevertheless, there was a significantly larger proportion of classes that the assessors

¹¹ There might have been some spillovers. In another data of similar nature, 93% of the classroom observations in project schools had teachers who received training from RTP compared to 9% teachers from non-project schools. It seems teachers have moved from project to non-project schools, and vice versa.



observed where teachers used participatory learning approaches and PBL strategies in non-project schools (see Table 17).

Table 17: Classroom quality details

Classroom observation details	Project schools	Non-project schools	Significant difference?
Classroom quality score	40.2	20.3	Yes
Participatory learning			
The teacher asks children open-ended questions (what, why, how questions)	78.6%	13.6%	Yes
The teacher creates opportunities for children to talk with each other about the lesson.	73.8%	18.2%	Yes
The teacher creates opportunities for children to practise and expand on what they learn.	71.4%	13.6%	Yes
The teacher gives children time and opportunities to ask questions.	59.5%	9.1%	Yes
Children ask questions to the teacher without being prompted.	35.7%	9.1%	Yes
The teacher responds positively to children's questions (i.e. without scolding or mocking them for having asked the question).	42.9%	13.6%	Yes
Play-based and RCA teaching approaches			
At the start of the lesson, the learning objectives for the lesson are made clear to the pupils.	81.0%	40.9%	Yes
At the end of the lesson, the teacher provides time for students to discuss what was learned and reflect on their learning using the RCA questions for the lesson/activity.	90.5%	4.6%	Yes
The teacher summarises what was learned at the end of the activity/lesson.	73.8%	18.2%	Yes
The teacher uses games and links the game to the lesson being taught.	57.1%	4.6%	Yes
The teacher uses songs, art, or drama, and links these to the lesson being taught.	47.6%	13.6%	Yes
The teacher asks students to perform tasks in small groups.	50.0%	13.6%	Yes

Note. The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

In an examination of the factors that determined the classroom performance of teachers, there were no factors significant other than receiving EQIE's training and class observed in project schools. Teacher's years of experience, education level, class size, and other external factors related to the classroom, school, and teachers did not matter. This fact helps to establish the value of the training and of the project in changing the pedagogical practices in project schools.

Project schools also had more materials available to support teachers and children in adopting play-based learning activities. On average, classrooms in project schools had



more children with textbooks, though there was no difference in students' access to supplies such as pens and pencils. In project schools, there were posters, reading corners, word cards, storybooks, and other materials inside the classroom. Only 2 out of the 22 classrooms observed in non-project schools had any of these materials, specifically posters or word cards. Interestingly, at least 1 in 5 classrooms observed in project schools also did not have any materials available inside classrooms. This might be because schools had already used all the materials available to them or teachers had stopped making materials on their own. In at least 4 out of 10 project school classrooms, there were at least some toys, materials to organise games, and sports materials available. Only 1 in 22 non-project schools had any of these materials available inside the classroom. It is to be noted that not all classrooms in project schools had materials that teachers could utilise to implement play-based learning strategies.

Teachers in project schools had enhanced levels of awareness of various play-based learning methods. Teachers in project schools were significantly more aware of the various play-based approaches to teaching and learning compared to teachers in non-project schools, except for using songs, rhymes, and chants for teaching purposes. However, less than 50% of teachers in the project schools were aware and confident in applying the most common approaches such as reflect, connect, and apply (RCA), using arts and drama, giving students leadership roles, and ensuring equitable participation of children in activities (see Table 18).

Table 18: Awareness about PBL methodologies

Technique	Baseline	Midline		Is the difference significant?
	Project	Project schools (%)	Non-project schools (%)	
Reflect, connect & apply approach	17%	48.6%	10.0%	Yes
Games and play activities	77%	85.7%	40.0%	Yes
Arts, drama, and drawing	57%	48.6%	20.0%	Yes
Songs, rhymes, and chants	71%	68.6%	60.0%	No
Open-ended questions	23%	65.7%	25.0%	Yes
Discussion among students	26%	68.6%	20.0%	Yes
Giving students leadership roles	11%	18.1%	0.0%	Yes
Ensuring equitable participation of children in the class/activities	11%	22.9%	0.0%	Yes

Note. The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

Teachers in project schools had significantly more time dedicated to activities that improve children's learning. Teachers in project schools more frequently used free time for children, allowed children to play games, allowed children to have group discussions with each other, encouraged to have RCA discussions, used any form of arts/drawing activities, and used singing, rhymes and chanting for the teaching-learning activities (see Table 19). The differences in the frequency of the activities differed significantly between teachers in the project schools compared to teachers in non-project schools except for the activity of assigning leadership or facilitating roles to children.

**Table 19: Teachers who provided productive time to children at least once a week**

Techniques	% of teachers who use it at least once		Average frequency per week (0-5 scale)		Significant difference?
	Project schools	Non-project schools	Project schools	Non-project schools	
Free time for children to dedicate for their own learning	100.0%	80.0%	2.7	1.8	Yes
Subject-specific games and play activities	97.1%	70.0%	2.9	1.7	Yes
Group discussion activities	100.0%	80.0%	3.0	2.4	Yes
Reflect, Connect & Apply Discussion	100.0%	75.0%	3.1	2.2	Yes
Arts, drama, and drawing	97.1%	75.0%	2.4	1.4	Yes
Singing, rhymes, and chanting	100.0%	85.0%	2.9	1.7	Yes
Giving leadership roles to children	97.1%	95.0%	2.7	2.4	No

Note. The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

Children in the project schools were more involved in classroom activities compared to children in non-project schools. Significantly more teachers in project schools reported that children are engaged in classroom activities: that they share ideas, opinions, thoughts, and/or feelings with teachers, ask questions to teachers, and go to teachers to report safety concerns. There was no significant difference between treatment and control schools in whether children felt comfortable and relaxed at school. Despite all the wide range of benefits, the results show that students in project schools have not benefited from such activities to the extent they should have. Although both project schools and non-project schools use such techniques, they are not used that frequently (only up to 3 days a week). However, on the encouraging side, there was a difference between project and non-project schools in who gets the opportunity to lead inside the classroom. More teachers in project schools reported that mostly girls or both girls and boys take leadership roles (50.0%) inside the classroom compared to non-project schools where mostly boys were provided with the opportunities to lead in the classroom (75%).

When asked what they do to maintain discipline in the classroom, most of the teachers in project schools identified positive solutions, such as communicating with the child, establishing rules and routines, and talking to the child in a calm, patient, and non-stressful manner. In non-project schools, 70% of teachers shared that they physically punish children compared to only 15% in project schools (See table 20). Despite these positive results, it is important to note that the project school was not free of corporal punishment. Additionally, there were no significant differences between teachers' tendency to yell or make fun of children who have inappropriate behaviour across project schools and non-project schools. These findings suggest the need for more robust or targeted efforts to address teachers' use of harmful disciplining strategies.

**Table 20: Techniques teachers use to ensure student discipline**

Technique	Project schools	Non-project schools	Significant difference?
Establish rules/routines	45.7%	15.0%	Yes
Discuss the child's behaviour with him/her and give him/her an opportunity to explain his/her behaviour	80.0%	50.0%	Yes
Yell at or make fun of children who have inappropriate behaviour	5.7%	5.0%	No
Talk to the child in a calm, patient, and non-stress manner	71.4%	45.0%	Yes
Physically punish the child	14.3%	70.0%	Yes

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

The qualitative data confirms the observation from quantitative surveys.

Teachers as well as students enjoy the play-based approach. Particularly for teachers who do not have adequate professional teaching qualification to run classes, this has made their lives much easier. All teachers reported a boost in their confidence to teach and deliver the curriculum. The community of practice was also considered effective in helping teachers to continuously improve. It provided opportunities for teachers to learn from their fellow teachers. They often reach out to fellow teachers for support when they struggle and discuss/share their experiences.

"I want to say that it [training] has helped me to learn how to interact with children and how to target slow learners. I have gained confidence. Our approach has also changed. For example, we used to write on flip charts and stick them on the wall, but after the EQIE's training, we have learned to choose tools to suit the environment surrounding us." (Teacher, Tarime)

"Yes, it helped me to improve my teaching practices. In the past, we rarely involved all pupils during the teaching and learning process. Only teachers were at the centre of the teaching and learning process. After receiving the training from EQIE, I learned that we need to involve all pupils in the teaching and learning process and keep them at the centre." (Teacher, Serengeti)

"I have been able to learn from my fellow teachers, especially about how to prepare tools. If I struggle, I reach out to my fellow teacher and ask for tips. We keep on sharing our best practices." (Teacher, Tarime)

Teachers also reported that their performance has improved. They use teaching materials and tools to teach students and go prepared to a classroom with their lesson plan ready. Teachers considered the follow up support and the inspection mechanism to be useful in motivating them to continue using the PBL.

"We have a procedure to conduct inspections and provide feedback every week. Every Friday I check all the materials and sign them. And, I count how many materials teachers have prepared for a week." (Teacher mentor/coach, Tarime)

"Also, our performance has improved. We know how to prepare for a class and what tools to use. We have been constantly correcting the posters that we put in the classroom according to the instructions that we received from the quality assurers (coaches/mentors). Before EQIE, we



spent very limited time preparing for a class. But now, we use several tools to engage children.” (Teacher, Serengeti)

The teachers not only performed better they also found the process to be enjoyable. Teacher’s moods during the teaching-learning process were significantly better for project schools. The most common mood themes (reported by >50% of teachers) for project schools were high energy, comfortable, cheerful ecstatic, and happy. These positive emotions may be due to teachers’ heightened sense of confidence and ownership over their classroom instruction or based on students’ increased engagement and interest in the classroom, which resulted from the changes in teachers’ practice.

Government representatives also validated that there was a big change in teaching and learning activities in project schools. In their opinion, classroom teaching and learning are completely different between project and non-project schools.

“The most successful activity is teacher training. In project schools, teaching and learning practices have improved a lot.” (Government representative, Tarime)

“I see three key impacts - improvement in teaching skills, inclusion of children in teaching and learning processes, and positive teaching and learning environments. Teachers have prepared and used teaching and learning tools. There is a big difference between project and non-project schools. Teachers in project schools employ RCA techniques.” (Government representative, Tarime)

Children's enjoyment of school and their love for learning were noted by parents as positive outcomes of the project. Play-based learning has made children love school.

“It is true because previously children did not like school. But after the project, you find that due to what children learned yesterday, they are motivated to go to school.” (Parent, Serengeti)

“My child did not like to attend school and did not know how to read and also did not like to do homework. But after this project, things have changed. My child now loves school. Even if there is an emergency that will make him not go to school, he will inform his teachers through his classmates.” (Parent, Serengeti)

Teachers have also learned techniques to make the classroom inclusive and were also aware of the psychological safety of children. They were keen at understanding children and their situations and supporting them as much as possible. There were significantly larger percentages of teachers in project schools who reported that both girls and boys participate in classroom activities and learn equally: 63% and 40% of teachers in project schools (compared to 25% and 15%) reported equal participation of girls and boys, and equal learning performance of girls and boys, respectively. In project schools, equal participation and improved learning performance between girls and boys could be attributed to a wide range of efforts made by schools and teachers.

Teachers underscored the commitment to fostering an inclusive and equal learning environment, where all students, regardless of gender, actively participate, engage, and benefit collectively. All teachers in project schools reported that they try to adapt their teaching methods to make it equitable for girls and boys. Some of the techniques teachers used in project schools include: (i) inclusive teaching strategies such as mixed-gender seating arrangements, group activities, and competitions, ensuring that both boys and girls have equal chances to participate and lead discussions; (ii) the formation of girls' clubs to empower girls by creating safe spaces where they can understand and advocate for their rights; (iii) engaging closely with students, listening to their concerns, and involving them in discussions and activities are recurrent themes that highlight the importance of active engagement in the



learning environment, and (iv) emphasising collaborative learning through group assignments, discussions, and joint activities, contributing to learners' overall improvement. School management committee (SMC) members also shared that they have also started to behave equally with girls and boys.

"When a teacher prepares his class session, he should use inclusive methods and know that his class has students who have disabilities. Therefore, when you choose a particular PBL method, you must ensure that it is an integrated method." (Teacher, Tarime)

"Teachers were familiar with the psychological safety of children. They adopted methods that will enable children to learn better, and supported children as needed. They tried their best to find out the reasons behind certain behaviours of children. There is certainly a lot of room to improve on this aspect." (Teacher, Serengeti)

"EQIE has helped in changing our behaviour with children. For example, even when it comes to office cleanliness, we don't choose a girl alone and instead we choose boys too. In the leadership of the school, we do the same, we put girls and boys, so it has helped in keeping balance and cooperation for children." (SMC member, Tarime)

The inclusive teaching and learning practices and play-based learning complemented the project's Leave No One Behind campaign. The improvement in the classroom teaching-learning process had a positive impact on children who came back to school. A case study below establishes this.



Case Study 1. The school environment is beautiful. I love it.

Farah comes from a family where there are 13 children in the same family. She is raised by her uncle because her parents are not alive. Her parents died when she was very young. Her uncle, despite his wish to support Farah, was not able to arrange to purchase the necessary school supplies to send her to school. Now that she is part of the Right to Play EQIE project, she enjoys school. She also received school supplies and reading materials provided by EQIE. She not only studies in school, but also at home. Her classmates visit her, and they study together. Her uncle was proud of Farah's achievements. In his opinion, Farah is doing very well in her studies, and even ranks well. This year she ranked second in her class, and last year she was ranked first. Everyone likes her in school as well as at home. Her uncle shared that their life is still difficult though it's different than in the past. He feels relieved that EQIE helps him with some of her school costs. He is happy to see Farah progressing in school and is proud of her. Below is what Farah shared about her story.

I am Farah (name changed). Before EQIE came to the school, I was not studying in the school. Because my family is poor, they couldn't buy me a school uniform. As a result, I sometimes went to school and sometimes I couldn't. I used to feel embarrassed in school because I did not have a uniform, and pen or notebooks that are required. As things got worse, I dropped out of school in the second grade. After that I stayed home for two years. Only after EQIE and school reached out to me and supported me with a school uniform and other supplies, I re-joined school. Now, I am studying in grade 4.

I am happy when I participate in various activities with my classmates. The teachers are really kind and supportive. They try to help us learn as much as possible. Also, the school environment is beautiful, and it makes me very happy. The classroom environment is also conducive to learning. We get to play and learn at the same time.

I love participating in various games with my friends at school. Sometimes you might be sad, and it goes away as you play with your colleagues. At home, you may find yourself lonely, working all alone, staying alone, and nothing to inspire you. I learn to cooperate with other children through sports. Even in classrooms, we work together as groups in classroom activities. We also try to solve problems together. Sometimes you don't have a pen, you could ask your classmates for help. That is how we work together. Although I have started to come to school, things are not always easy. I do miss school on days when I must support my family, or I fail to arrange necessary supplies. I call upon them [EQIE] to keep supporting me so that I can fulfil my dreams.

Challenges/Bottlenecks

There is room to improve the rigor and alignment of the teacher's professional development component. Although government quality assurers appreciated the entire training modality of EQIE, they believed the cascade approach of training a teacher who goes back to school and trains others was not as effective as expected. As a result, many teachers had not been able to properly execute the project's THT approach of the PBL pedagogy (THT stands for *Tafakari, Husisha, Tumia*, or "Reflect, Connect, Apply" in Kiswahili). Teachers are largely struggling to apply THT effectively.

Some parents expressed concerns about the overemphasis on games and play (mixing it with sports and tournaments), questioning its utility in improving learning outcomes. The games were misunderstood as play-based teaching-learning. In an interview with EQIE staff, parents also shared concern that some teachers use games in the classroom without adequately applying the pedagogical practices of play-based learning.

"All teachers should receive training directly from EQIE. Right now, only few receive training and are expected to go back to school and train their colleagues through MEWAKA (Continuous training of teachers at work). MEWAKA has not been effective. The newly trained teachers have not trained other teachers as effectively." (Government rep, Tarime)



"Applying THT {*Tafakari, Husisha, Tumia*} (Reflect, Connect, Apply) questions in the classroom is another challenge. Teachers do not use THT because they don't know how to prepare their questions." (Teacher, Tarime)

"Play-based learning means going from one place to another to participate in activities. Children have participated in various games/sports activities." (Parents, Serengeti)

Several external challenges hinder a teacher's ability to deliver.

- **Overcrowded classrooms and limited space hinder teachers' ability to use play-based learning strategies.** Teachers believed the physical infrastructure of the school and high student-teacher or student-class ratio interfered with their ability to deliver play-based learning effectively.
- **Due to the multilingual nature of classrooms, teachers often had to spend time translating the EQIE materials from Kiswahili to local/vernacular languages, particularly in lower grades.** A 30-minute class was not enough. Teachers had to take time to translate materials into local/vernacular languages while explaining games to their students. Language barriers also affected children's ability to understand the games well enough and be involved, particularly in early grades.

In classroom observations, it has been revealed that the application of play-based learning methods may face some sustainability challenges. By midline, not all classes used play-based learning: 10-20% of project schools did not apply play-based learning effectively during the classes observed. As mentioned earlier, 20% of classrooms observed in project schools also did not have any materials available inside classrooms. This might be because schools have already used all the materials provided by EQIE or teachers have stopped making materials on their own. EQIE trained teachers to create and use teaching and learning materials using locally available materials. The actual application frequency of play-based learning was also much lower than expected: teachers used play-based learning between 1-3 times a week. While we found that the community of practice and the supervision by government assessors encouraged to keep up some momentum at school, other reasons slowed down the enthusiasm: (i) there was no mechanism to train new teachers spontaneously at the school level, and provide them with the necessary support, and (ii) as mentioned earlier, there was no incentive for teachers to use those techniques.

Teachers' job satisfaction remained unchanged from the baseline. Although teachers in project schools demonstrated better teaching and learning skills and behaviours, their job satisfaction was not much different than in the non-project schools. When asked to rate how rewarding they find their careers, there was no significant difference in the ratings provided by teachers in project schools vs non-project schools. And there was also no significant difference between project and non-project schools in the proportion of teachers who reported to have received strong rapport and collaboration from the community of teachers in their school. The same proportion of teachers considered leaving the job in both project and non-project schools. The availability of psycho-social support for teachers was also not different in the project school though there were significantly more teachers (71%) trained to provide psychological support to students in project schools (35% in non-project schools). There was no recognition, encouragement and motivation for teachers who made extra efforts and applied play-based learning in their classrooms.

Project schools were not free of corporal punishment. Although teachers and students in project schools found their classroom environment and practices to be safer compared to non-project schools, the project schools were not free of violence. In the survey, at least 14% of



teachers in project schools reported that they used corporal punishment inside the classroom, and there were an equal number of teachers in project and non-project schools who yelled at children. Although there was a consensus among parents and teachers that they need to treat children with respect, a safe classroom and household environment free of harmful practices was not achieved.

Parent-teacher communication and expectations can be improved. Parents and teachers reported that their communication with each other and with children had improved immensely compared to the past. However, both parties also had unmet expectations of each other. Parents wanted teachers to deliver better academic results for their children. Teachers expected parents to support their children at home. Some expectations such as checking a student's progress or helping children to read and write were hard for parents to meet. Teachers, school stakeholders and project staff also blamed parents for not participating in the school events. Education personnel were not sensitive enough to consider that parents have their own competing priorities to earn and make a living for their children and family. Further, some parents did not have the skills or confidence needed to support their children's academic learning. For example, project staff suggested that the project should run literacy classes for parents so that they are able to better support their children at home.

2.3 Evaluation Question 3. Does the PBL in-service TPD under the EQIE project lead to improvements in learning outcomes or intermediate indicators towards improved learning outcomes in treatment schools? If so, how?

Summary

There is evidence to support that the PBL-focused in-service TPD under the EQIE project contributed to improving the reading skills of children in project schools. There is also evidence that PBL played a significant role in improving socio-emotional skills among children. However, there is no evidence to support that the TPD contributed to broader improvements in other learning outcomes (e.g., writing and numeracy skills).

Results

All project schools implemented play-based learning to a certain extent¹². In addition, all project schools (100%) also implemented extra-curricular activities to support children's learning compared to only 50% of non-project schools. Overall, 90% of project schools had reading clubs compared to 40% of non-project schools. The EQIE project prioritised five key reading skills: letter knowledge/phonics, phonemic awareness/awareness of sounds, vocabulary, reading fluency, and reading comprehension. Although an average teacher in non-project schools could only identify one key reading skill, an average teacher in project school could identify 4 of the 5 reading skills. a significantly higher proportion of teachers applied different teaching techniques to support children's reading skills (see Table 21).

¹² While there was no difference in school principals in project and non-project schools in their experience and readiness to lead school, there was a significantly higher proportion of school principals who received training on their roles in project schools (85.7% in project schools compared to 55.0% in non-project schools). Interestingly, there were three schools with teachers who received training from RTP among 20 non-project schools suggesting some form of spillover and contamination. There was also one non-project school (school principal) that reported to have adopted play-based learning. In the data, there is not much evidence of play-based learning being applied in any non-project schools.

**Table 21: Reading-specific activities in the classroom (% of teachers who applied the technique)**

Technique	Project schools	Non-project schools	Significant difference?
Read fluently or with expression (changes tone, makes voices for characters)	74.3%	15.0%	Yes
Show illustrations to all children	45.7%	15.0%	Yes
Ask children questions about the story that relate to children's own lives	60.0%	35.0%	Yes
Ask children problem-solving questions about the story	60.0%	30.0%	Yes
Ask children predictive questions or ask children to imagine something about the story	45.7%	10.0%	Yes
Give children an opportunity to discuss the story with each other, or other activity about the story in which children interact with each other	40.0%	25.0%	No

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

Children in project schools also confirmed that their teachers used play-based learning to encourage them to read. There were significantly more children in project schools who reported participating in reading activities with their teachers during the last 7 days compared to children in non-project schools (see Table 22). There was no significant difference between the project and non-project schools during the baseline. We saw that the percentage of teachers who taught sounds of letters and words decreased from baseline to midline. It might be because the children progressed from grade 1 to grade 4, and the priority for reading skill is no longer the teaching of sounds of letters and words.

Table 22: Reading activities involving children

Teaching learning practices during the last 7 days	Baseline		Midline		Significant difference?
	Project (N=362)	Non-project (N=346)	Project (N=427)	Non-project (N=444)	
My teacher read to me.	63.0%	60.6%	90.8%	78.3%	Yes
My teacher asked me questions about what you read.	65.8%	59.3%	94.4%	75.2%	Yes
Read with a classmate in school	72.0%	66.7%	98.6%	79.2%	Yes
Read quietly by yourself without help	66.3%	64.8%	85.5%	52.6%	Yes
Learn songs or games in class	62.7%	62.4%	81.2%	42.2%	Yes
Teacher taught the sounds of letters and words	64.3%	63.0%	57.5%	22.4%	Yes

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.



Which activities were most helpful? Teachers highlighted the need to use a diverse set of tools and techniques to meet the varying needs and preferences of students, ultimately leading to positive learning outcomes. The most common play-based methods were drama, games, discussions, songs, and group activities. Teachers believed these methods lead to improved academic performance, increased enthusiasm for learning, and better retention of information. However, different students have different preferences, with some favouring songs, other games, and some benefiting more from open discussions. And teachers shared that they adapt different methods based on the size of the classroom and student preferences. When asked to identify the top benefits of providing leadership roles to children in the classroom, teachers reported that such activities helped children to grow into confident, responsible, and capable leaders, contributing to both individual growth and contribution to society. In their opinion, getting leadership skills help children to foster cooperative learning, build self-esteem, self-discovery, build respect for others, instil a sense of responsibility, maintain their hygiene, and progress in reading skills. They have also found that students who build leadership skills attend school regularly, are better at following school decorum, and become dedicated learners. In terms of reading activities, teachers identified reading together, group discussions, and question-answer sessions as the most beneficial methods.

In the qualitative discussion, parents, teachers, and other stakeholders shared that play-based learning led to improved learning through increased attendance. In their opinion, children enjoy going to school every day, thanks to the play-based learning approach. Things were not like that before. In the past, children used to avoid going to school.

"It [PBL] helped to reduce absenteeism for children because they know that we teach through games, songs, and group activities." (Teacher, Serengeti)

"My child did not like to attend school and did not know how to read. But after this project, things have changed. My child now loves school. He attends school regularly. Even if there is an emergency that will make him not go to school, he will inform his teachers through his classmates." (Parents, Matare, Serengeti)

"Play-based methods boost school attendance for students who don't go to school regularly. When they see their classmates playing inside and outside the classroom, they become motivated to go to school. The number of absentees has gone down." (Parents, Tarime)

Confirming the observation in the quantitative data, all stakeholders aligned that PBL has significantly contributed to improved learning outcomes. Although we only have evidence to support that the project has contributed to improving reading and socio-emotional skills among children, teachers and parents believe that the overall learning achievement has increased. In the opinion of teachers, the learning outcomes have improved because PBL makes it easier for children to learn and remember. Parents also attributed the outcomes to the availability of reading materials and supplementary reading activities.

"I can say that this method has been effective because in my teaching, the students have been understanding me easily and their participation has been great because the students love sports. And if you use PBL, they will love the subject and attend school. For the most part it has helped because many students have learned to read and even if you look at their results they have been doing well." (Teacher, Tarime)

"There was a huge impact of the project on children's learning. Students who can read, count and write, from grade 1 to 4, in project schools have increased. The number of children who do not know how to read has decreased. There are no children who cannot read in project schools unlike non-project schools where there are more than 50-70 students in a classroom who do not know how to read. Students in lower grades love games and are attracted to school. As a result, the student attendance is good in project schools. In other schools, teachers are using



sticks to make sure students attend school which of course has not worked well.” (Government representatives, Tarime)

“My child did not know how to read or write. Due to the reading materials, he received from EQIE, he got more opportunity to practise, and now he can read and write well.” (Parents, Serengeti)

“I can clearly see that the project has contributed to improve the reading skills among children. Not only teachers but (parents] were also oriented on stages of reading. Before the project, children were very slow in their reading speed. Nowadays, children can read quickly. As they can now read quickly, it also helped them to do better in other subjects. Scores have gone up for all children.” (Parents, Serengeti)

PBL had a differential impact on students' learning.

- **Girls benefitted more than boys in project schools.** As mentioned in the earlier sections, teachers in project schools were found to use inclusive teaching approaches more often than teachers in non-project schools. Such techniques seem to have generated the expected return. In the quantitative data, we found that girls in project schools were able to reverse the gender difference and score higher than boys in some reading skills.
- **PBL has helped lower-level learners to catch up.** Parents reported that play-based learning helped low-level learners to catch up with fast-learners because they had opportunities to collaborate and learn together. It is to be noted that the quantitative data also supports this claim. In project schools, the standard deviation especially of the EGRA scores was much lower than that of non-project schools, signifying reduced inequality in children's performance.

“Play-based learning approach increases children's creativity, improves their health and wellbeing, and boosts their ability to learn. Play-based methods strengthen cooperation among students by bringing together slow learners and fast learners. These methods lighten up their brains at large.” (Parent, Tarime)

During the qualitative interviews, parents also confirmed that play-based learning has benefitted their children in improving other life skills, including socio-emotional skills.

Parents shared that their children have higher levels of socio-emotional skills, such as teamwork, collaboration, communication, confidence, or courage. They also found that children have become more active in the learning process than before. Earlier, teachers took charge and students were passive listeners, but now things are different.

“Through play-based approaches, children have realised the importance of helping each other, and have also learned how to collaborate and share.” (Parents, Matare, Serengeti)

“In my understanding, the play-based learning approach fosters courage among children and makes them more active in the entire learning process. Their engagement in games sharpens their ability to work with their team, make decisions, and build self-awareness. The approach is particularly useful for slow learners where they get to learn through non-conventional engagements.” (Parents, Tarime)

“Children tend to be shy in a mass, but when they start to participate in activities that fear fades away. It helps them to become more confident. In my recent visit to the [community] reading centre, I discovered that things have changed. Previously, children were passive and waited for the teacher's instructions. This time, they were very active. The play-based learning approach helps a child to discover his/her unique talents and expand on that.” (Parents, Serengeti)



Not only has the project contributed to improving socio-emotional skills, but parents and children also found the school environment to be much safer than before. During the midline evaluation, parents shared their confidence in the safety of the school environment for their children. Parents also shared a few concerns such as the lack of sufficient toilets and the shortage of teachers in some cases. Parents of project schools found the school to be significantly safer compared to non-project schools during the midline (see Table 23). There was no difference during the baseline.

Table 23: Parental perception on school safety (scale of 1 to 5 where 1 means strongly disagree and 5 means strongly agree)

Statements	Project (N=395)	Non-project (N=405)
My child's school is safe.	4.8** (0.50)	3.9 (1.18)
My child's school is accessible and inclusive for children with disabilities.	4.6** (0.74)	3.5 (1.40)
My child's school promotes gender equality and supports the education of girls and boys equally.	4.8** (0.43)	4.1 (1.11)

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

The risks facing children were more or less the same except for two risks: children in project schools were fewer in number to report that they need to earn money to support their supplies, and they lived in a home where the environment is hostile (i.e., people push, slap, fight and throw something at each other). This means that the project has likely had a positive effect, not only on access to financial materials, but also on parental practices and particularly parents' use of corporal punishment or other harmful disciplinary strategies. With the help of EQIE, schools organised meetings with parents on a regular interval. The distribution of children facing other risks were similar in project and non-project schools. Not surprisingly, except for the two risks where we found significant differences, other risks such as food security at home were out of the scope of the project to influence.

Challenges/Bottlenecks

Although play-based learning is already delivering results in the expected direction, its connection to reading skills demands further solidification. While teachers were aware of key reading skills and activities to improve those skills, they did not have sufficient knowledge on how to use play-based learning to deliver the curriculum while prioritising the development of children's reading skills. The expectation set on teachers to adapt and apply their knowledge on play-based learning in the classroom was beyond their capability and was constantly challenged by external factors such as class size. More than 30% of teachers in project schools could not identify these three core reading skills: comprehension, fluency, and vocabulary. A better mix of play-based learning and reading skills is desirable in the teacher's professional development, ideally from their pre-service training, but also through ongoing school-based TPD.

The school-level implementation was not always as expected. The actual practice depended on what behaviours school stakeholders, especially teachers demonstrated. For example, student attendance was a key driver behind improved reading and socio-emotional development among children in project schools. However, not all improvement in attendance



could be attributed to PBL. Some children attend school even if they are not feeling well in fear of punishment. Although EQIE advised teachers to encourage children to come to school regularly and set some rules around it is desirable, some teachers ended up doing the opposite, i.e., punishing children for not coming to school regularly.

"Even if I tell him not to go to school and stay at home for a day, he refuses. He says the teacher will punish him, and sometimes he cries to show that he doesn't want to stay at home. So, you can see how much the child has been in love with school. The project has started to set a norm that one should always go to school, and if unable, should inform teachers/schools with valid reasons." (Parents, Matare, Serengeti)

Children in project schools were facing adversities like those in non-project schools, and there might be room to support children in dealing with these sorts of challenges.

Children with higher risk scores – who reported experiencing child labour, emotional trauma, or corporal punishment – were more likely to have lower levels of socio-emotional skills. And the project did not have any differential impact on these students. This indicates that the project probably did not target or have a separate support mechanism for children who are facing adversities at home, or the project interventions were insufficient to help them enough to improve their socio-emotional development comparable to other children. Additionally, because both project and non-project schools were considered relatively safer compared to the external community, there was no effect of the school being safe that translated to improved socio-emotional development for children.

2.4 Evaluation Question 4. What are the key characteristics of schools that are able to effectively implement the PBL pedagogy compared to those that are not able to?

From the data, there was no conclusive evidence that schools matter in determining the outcomes of the project. The changes in reading skills and socio-emotional skills attributed to the project were universal - not much depended on the school. Students from all project schools have improved regardless of the school's features. The midline evaluation captured various school features, including the experience of school leaders and the availability of school infrastructure. The treatment effects were significant to the same extent even when school fixed effects were applied. It means that at the school- level, differences were not strong enough to affect the treatment results, and hence, the project can be replicated in any school. During the validation workshop, the participants shared that some project schools are weaker compared to others. This is in line with the evaluation findings. We found that the average score in reading and SEL skills were evenly distributed among the schools. For example, the average ISELA score by schools was distributed between 62% to 85% with the aggregate mean score of 75%. The findings, however, suggest that the project did not have different levels of impact by schools.

Having said that, from the qualitative data, there were certainly some schools that performed better than others. And the drivers that led to better use of treatment resources by certain schools are as follows:

- *Strong school leadership*

A committed and dedicated school principal who valued PBL was able to motivate teachers to continue applying the method and provide them with necessary support as needed. Not all school leaders had the technical ability and expertise to guide teachers in implementing PBL.



- *Support mechanisms for teachers*
Teachers in schools that received regular visits from government assessors, and teachers who received the training of trainers from EQIE had some support to continue using PBL. It was important for teachers to be able to share the challenges they face in implementing PBL and get tips and tricks to overcome those challenges.
- *School environments (class size, school facilities, and reading materials)*
A bigger class size makes it difficult for teachers to implement PBL in the classroom. The school environment such as the availability of physical facilities and especially the availability of reading materials in schools and classrooms mattered in subtle ways.

Except for some small changes such as the regularisation of school-improvement plans, the project missed out on an opportunity to prioritise the school as a system, and to work through schools to implement and systematise the PBL.

2.5 Evaluation Question 5. What is the potential impact of after-school supplemental learning activities on improving learning outcomes in treatment schools?

Summary

Although the qualitative data clearly shows that supplemental activities have been beneficial, except for some scores, there is not much evidence that the activities had an additional impact. There might be two explanations for this. First, almost all children in the project schools attended the project activities, hence, no additional impact is detected in the data. The intend-to-treat effects analysis presented in the first second captures the effect of the supplementary activities. Second, the project activities had a lower additional effect compared to the play-based learning activities. Based on the qualitative data, we think the former is true.

Results

In project schools, teachers reported that the two most common extracurricular activities they facilitated outside of school were reading clubs and remedial instruction for children who are behind in their reading skills. There were a few reading centres established in the communities. Some senior students also volunteered to coach/mentor young children to read. Many children benefited from the project's support. More than 90% of parents in project schools compared to less than 5% of parents in non-project schools benefited from the project. Among the activities, the coverage of after-school reading classes was the lowest among parents in project schools (Table 24). There were 22% of parents in project schools who reported that they do not send their children to extra-curricular reading classes after school.

Table 24: Participation in project activities

Support	Project schools	Non-project schools	Significant difference?
Received reading materials	97.5%	6.4%	Yes
Children participated in reading centres	93.9%	4.7%	Yes
Children member of a reading club	93.4%	3.0%	Yes



Support	Project schools	Non-project schools	Significant difference?
Children member of a child club (e.g., girls' club or boys' club)	95.7%	3.2%	Yes
Awareness raising and training on girls' education	91.9%	2.2%	Yes
Awareness raising and training on importance of education for children with disabilities	91.9%	6.2%	Yes
Out of school children brought back to school	90.1%	5.9%	Yes
After-school or extra-curricular reading classes	78.2%	2.7%	Yes
Participated in any training (for example, on how to support your child's literacy or broader education)?	96.2%	20.7%	Yes

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

The availability of reading materials and reading practices improved for children in project schools and may have contributed to parents' improved involvement in their children's learning.¹³ Parents expressed gratitude for the books and educational materials provided to their children, an aspect that resonated with them emotionally. The books supplied by EQIE were consistently mentioned by parents, who believed that these resources significantly contributed to enhancing their children's reading skills. Importantly, parents were more involved in learning activities with children (see Table 25). This builds the foundation of why we see an improvement in the reading skills of children in project schools. However, parents also noted that there were a limited number of reading materials available to children at school.

Table 25: Additional reading support for children at home

Support	Baseline	Midline	
	Project schools	Project schools	Non-project schools
Reading material availability index (Max possible value: 8 points)	2.3 (1.71)	5.7** (1.73)	3.4 (1.28)
Parents who read books/articles/newspapers	34%	68.9%**	20.7%
Helped children with their homework in the past week	60%	85.1%**	31.8%
Read a book to the child in the past week	42%	76.2%**	16.8%
Told a story to the child in the past week	29%	77.0%**	17.2%

¹³ Parents in the project schools were slightly different than parents in non-project schools. The education level of parents in project schools was slightly better than parents in non-project schools. Although the majority of parents were farmers followed by small business owners, there was also some difference in the job of parents: slightly more project school parents were involved in business compared to non-project, and slightly more non-project school parents were involved in farming compared to project schools. The socio-economic status of parents in project schools was also better compared to parents in non-project schools, and thanks to the project the availability of reading materials or facilities was also significantly better in the project schools.



Play literacy games with the child in the past week	28%	77.0%**	18.2%
---	-----	---------	-------

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

Parents highly appreciate the after-school programs including reading centres/clubs, and in fact, they believe such activities have greatly helped to improve the learning outcomes for children. They think their children are learning important life skills and have also become proficient in reading skills in part due to the reading centres/clubs. School management committees (SMC) also confirmed that children have learned various life skills, including socio-emotional skills such as working with others and solving problems.

“It is true that the extracurricular activities have been of great help to our children. In the reading centres they attend, they are taught life skills. Although outside of their curriculum, I have seen these skills enable children to develop a sense of self – recognition and motivation.” (Parents, Serengeti)

“Children have learned important life skills. They have learned skills to solve problems, respect each other, and cooperate with others in learning. Every child respects each other, cooperates with each other to solve problems. For example, if an accident occurs, before reaching their teacher, they look at how to give first aid to their classmates. In general, we have seen the behaviour of these children change to a great extent. If they see something wrong, they report it to the teacher.” (FGD with SMC members, Tarime)

The equity-specific activities successfully helped encourage marginalized children, especially girls and children with disabilities to re-enrol and remain in school: community awareness campaigns which helped encourage re-enrolment, and PBL which helped make learning more enjoyable so that students felt motivated to attend school.

There were more children with disabilities enrolled in project schools compared to non-project schools. And most teachers in project schools (more than 83%) believed that a positive environment for children with disabilities was only possible because of EQIE's support. In an open-ended response, teachers emphasised the positive impact of the EQIE project in creating a conducive environment for children with disabilities. The program offered training for teachers, engaged parents, and arranged necessary supplies such as school uniforms to ensure that children with disabilities continue their education and learn. The teacher creatively engages students, moving them to the front and involving them in thematic dramas. While there is a lack of specific equipment, EQIE through the EQIE project has provided some materials, including sports equipment like balls, and drawing boards. For children with disabilities, the project has had a profound impact on their lives, and play-based learning has encouraged them to continue attending the school (see below a case study of Monika who loves coming to school).

Case study 2: Monika, an orphan girl with disabilities, is back to school and she loves it.

Caregiver

My child started school very late. She is not my daughter. We don't know the whereabouts of her parents, and I have been raising her since she was a child. When she was young, she had convulsions. After I got a job, I bought her school uniforms and brought her here to school. The teachers along with EQIE through a local CSO are the ones who helped me in arranging necessary supplies for her to be enrolled and continue in school. For a long time, she also did not go to school because she was sick. As a result, she had to repeat a grade. Before EQIE's support, I struggled to arrange food and supplies for her. Now, she is doing well in her studies. Her ability to move around has improved compared to the past. First, her performance in class has improved compared to before



the project. The project has also helped to reduce the financial burden of schooling, for example, the need to buy school supplies. Currently, she is given books at school for free.

In the beginning, she didn't have anything that motivated her to go to school. On top of that, she would feel embarrassed to show up to school without the necessary supplies. But now, she has become a person who loves school and has never for a single day wished to miss school. She enjoys going to school. This is also because school has changed. Children are learning through games and plays. She is very thankful to EQIE and is very happy. I am also encouraged to support her as much as I can. I buy her clothes and other necessary items, assist her in reading, and visit school time and again to discuss her progress with her teachers. I also request EQIE to not get tired of helping her in her studies so that she can continue to get a better education.

Child

I was not going to school until EQIE (and my teacher) came to take me back to school. I stayed at home for 7 months without attending school. The primary reason I did not attend the school was that I could not afford to buy the school uniform. If it were not for EQIE, I would not have been able to come back to school. EQIE helped me to buy school uniforms and is still helping me with other supplies. Now, I am happy in school. I go to school every day. We get to play with friends and learn all new stuff.

EQIE was recognized for its efforts in mapping out-of-school children and supporting families to ensure their return to school. At the community level, parents were aware of EQIE supported initiatives on strengthening local CSOs to reintegrate out-of-school children, especially those with disabilities. Additionally, parents acknowledged the EQIE project's initiatives to sensitize and create mechanisms to report and combat sexual violence and reduce female genital mutilation. Parents reported that the practice of sexual violence and discrimination against girls has significantly decreased after EQIE's project. This is one of the unintended positive effects of the project because GBV (and the campaign against FGM) was not the primary focus of the project.

"EQIE sparked initiation to bring children with disabilities back to school. Before the project, they were left out, we had forgotten them. Thanks to the project, children with disabilities are now being enrolled in school. We have had such students in our reading centres before but through this project, they have been referred to a special school for special needs. Students with disabilities are now valued the same as other children." (Parent, Serengeti)

"Our Kurya community believes in mutilating girls. Parents are confident to get some cows as dowry for a mutilated daughter. I am sure the EQIE's seminar would change people's mindset on female genital mutilation. They would understand the negative effects of such practice including terrible pain to those girls, chances of infection, and many more. Thanks to the project, genital mutilation practices have decreased at large. Many parents have started to send their daughters to school. Education has become their top priority." (Parent, Serengeti)

"EQIE enabled children from poor families and children with disabilities to go back to school. They were provided with the necessary school supplies to continue attending school. These children left the school because they did not have school supplies. EQIE helped them to level the field with other children." (Parent, Tarime)

Challenges/Bottlenecks

Not all marginalized out-of-school children were reached. Although some children with disabilities and out-of-school girls from marginalized communities have been brought back to school, it did not happen in all communities, especially when there were no referral schools available in the community. The lack of resources/materials and not having training specific to special education makes it difficult for schools and teachers to provide children with the



support they need. Teachers wanted materials such as dolls with numbers, toys, texts with large pictures, and bright-coloured marker pens. Other unmet needs were very specific to the type of disability facing the child. For example: they identified bicycles as a need for one of their students with walking difficulties, and the availability of referral facilities for children with intellectual disabilities. Some students have difficulty with fine motor skills (e.g., finger mobility and grasping pencils for writing), while others have vision difficulties. It is difficult for some children to understand and focus on the content being taught and participate in group activities. The challenge is that one set of activities won't fit all students. A teacher must be cognizant of the situation of children with disabilities and try to adjust accordingly. Inclusion thus requires more comprehensive efforts, and collaboration with special education or disability specialists.

Although the reading centre provided more opportunities for children to practise reading outside of the classroom and it is valuable to provide more reading opportunities for children, the centres were difficult to manage, and the effectiveness of supplemental reading activities varied widely. Because the centres were run by volunteers who were briefly oriented to organize reading activities but were not adequately trained in reading skills, children were not receiving targeted supplementary support to fill gaps in their reading skills. We found no differential impact of participating in the reading centres. Not all reading centres were opened on a regular basis. It depended largely on the activeness of the facilitator and the local community. The mechanism was clearly not sustainable without a clear financing and operating mechanism. During the validation workshop, participants shared that they find reading centers useful, and a better way to manage a reading centre might be to run them through schools and under the direct supervision of PBL-trained teachers.

2.6 Evaluation Question 6. Is there early evidence that local partners and government partners have the capacity (institutional, financial), positive attitude, and ownership mindset to continue the pedagogical practices, and safe/inclusive learning environment activities of the project?

Summary

Yes, there are some signals that schools are getting better at systemic change. We have evidence that parents, teachers, school principals, and SMCs have changed their behaviors and approaches to support children in their learning journey. However, the outcomes are not likely to sustain without continuous follow-up and support mechanisms. Although many school leaders participated actively in the project and appreciated the project interventions, they did not always take the ownership and take the charge. The mindset among school leaders was that they were helping EQIE to implement their project more so that EQIE helped school stakeholders to achieve their goal.

Results

Parents, regardless of project or non-project schools, were committed to investing in their children, and were encouraged by their progress. During qualitative discussions, parents highlighted their children's diligence, the desire for them to excel academically, and the hope that they pursue a career, such as becoming a doctor, teacher, or nurse. Many parents wish for their children to excel in their studies, pursue higher education, and ultimately contribute positively to society. Parents in project schools reported that they support their



children in their studies and emphasise on their reading skills while parents in non-project schools shared challenges facing them and their children to reach their desired state.

"I am very proud because he is diligent; I love that he reads a lot. He tries to find his classmates who have studied so that he can learn from them." (Parent, Serengeti)

"Even though I didn't go to school, I want him to go far. I want to motivate him in education to become a doctor in the future. I hope he continues to study as much as he can to achieve his dreams." (Parent, Tarime)

"I struggle to educate him, and I hope he studies enough and can support me later. I will support him to fulfil his dreams." (Parent, Tarime)

"I hope she continues studying to become a teacher in the future or become a lawyer to advocate for other girls. I will help her achieve her dreams." (Parent, Serengeti)

The project contributed to notable changes in parental behaviours, and parents' understanding of what it takes to support children and why it is important. Parents reported that they do not get angry with their kids, do not yell at them, have started to have deeper conversations with their children, prepare daily routines to ensure that kids get enough support and attention, encourage children to maintain their personal hygiene, arrange school supplies, and reduce household chores assigned to children so that they have adequate time to study at home. According to parents, the initial orientation seminars, children's progress due to play-based learning, and improved communication with teachers triggered these behavioural changes.

"Personally, the project has changed my perspective. Earlier I used to think that children learn only at school. Through EQIE seminars, I have come to learn that learning doesn't only happen inside school but also at home. I support my children and provide them opportunities to study at home." (Parents, Tarime)

"The seminars I received have been of great help to me. I was able to understand that as a parent I have a great power to help my child succeed at school. I could do that by involving children in chores that do not reduce their study time at home. Alternatively, we can also teach small children to read and count while assigning them some simple chores at home. You may ask one of them to bring, say, 6 plates and that way you can teach them counting. Previously, I used to be angry at my child for not following my instructions. These days I try to support him in a friendlier manner. Things have changed." (Parents, Serengeti)

"This project has taught us that teachers are not the only ones responsible for teaching children, parents also need to take their share of responsibilities. They need to go through exercise books to see what their child learned at school on a particular day. Thanks to the project, I am now very close to my child. I listen to my child while he reads. There are still some words that he finds difficult to read. However, by listening and paying attention to them, I created the possibility to support them." (Parents, Serengeti)

"There has been a change in communication between parents and teachers. Before the project, I did not know the class teacher, nor did I communicate with him/her. But now, I visit school on a regular interval, and have a conversation with the class teacher on my child's progress. I have developed a good relationship with both my child and the class teacher." (Parents, Serengeti)

Some degree of PBL knowledge transfer amongst teachers happened within schools. According to school management committee members included in the focus group discussions, teachers who were not trained by EQIE have also learned and tried to use the play-based teaching learning. In their opinions, the spill over of the training extending to a wider range of teachers is a success.



The School Management Committees (SMC) were activated to work on a school improvement plan, with a particular focus on creating safe learning environments. As reported by teachers, a significantly larger proportion of schools are preparing and implementing school improvement plans. More than 74% of teachers in project schools (compared to 10% of teachers in non-project schools) reported that their school effectively implemented a school improvement plan. It is to be noted that 1 in 4 project schools still did not have a school improvement plan. SMCs reported that they constantly monitor school activities. For SMCs, something that stood out was their engagement together with EQIE in bringing people with disabilities and children (especially out-of-school girls) from poor families to come to school.

“As part of our role, we monitor student activities in school. We check how the student-teacher interaction is going on. We are happy to see children with disabilities. We took them from the streets and brought them to study with their peers. We helped some students with school supplies - uniforms, education materials- so that out-of-school children could come back to school and continue attending school.” (SMC, Tarime)

“There are parents who were hiding their children and did not want them to go to school. We collaborated with EQIE staff to identify those children and bring them to school. There are some children still missing out, and we are working hard to find them. We collaborated with EQIE staff in identifying children who need support, visiting door-to-door with her, and trying to convince parents to send their children to school. There are some who understand us and there are others who do not understand us.” (SMC members, Tarime)

SMCs also collaborated with EQIE in addressing community-level issues and served as a strong steward to the initiatives. They appreciated that EQIE provided them knowledge on how to work with children, and how to ensure that the environments they live and study in are safe. For example: SMCs have been a strong steward in campaigning against female genital mutilation (FGM). In addition, SMC members highlighted the work they are putting together to create a safe and peaceful environment in the school.

“Right to Play has given us knowledge on how to live with children and how to protect them. For example, in the community we live in, they perform FGM every year. We have a procedure to sit with children and explain to them the effects of FGM. When parents see us sitting with their children and explaining the effects of FGM, they don't like it because they believe that if the child is not circumcised, she will not get married....[But] we, committee members, are together with Right to Play in condemning this.” (SMC members, Tarime)

“Our priority is to provide a safe environment for a child. We try to remove their anxiety and tell them that they are in a safe place, feel confident and study freely. You know when a child sits in a place where he does not feel at peace, it is not the right place for him. If a student is treated wrongly in school, we sit with teachers and students and tell them that children should be brought up in this way. We encourage teachers to support their students and maintain a trusting relationship. If a student is afraid of his teacher, he won't be able to share his problems with the teacher. There is a suggestion box in the school where children can write and share their issues with us anonymously.” (SMC members, Tarime)

Government stakeholders interviewed for the midline shared that the project was very relevant to the local context and touched on the key priorities of national education policy. Their observation matches with the national policy priorities that emerged in the national policy review: a focus on equity and safe learning environments. Government representatives also appreciated the work that EQIE did to bring in the children who were out of school, especially children with disabilities and children from poor families. However, the government did not share how they plan to continue bringing children to school.



"We are grateful that the EQIE project is here. The national policy and objectives on education, now, are to promote inclusive education, i.e., education without discrimination. The project has done the same. In Tarime, communities did not prioritize sending girls to school, but after EQIE's support, they are also sending girls to school. The project has also been supporting children from poor families to return to school by providing them with school supplies. There have also been efforts to educate the community on the importance of girl's education. The government's policy and EQIE's priorities match with each other." (Local government education official, Tarime)

"The project has helped and caused these children with special needs to continue their education. First, it is one of the priorities of the project to ensure that these children continue their education. Therefore, in that way, children with special needs have been given priority to ensure that they continue their education." (Government representative, Tarime)

Challenges/Bottlenecks

Although parents said that the seminars helped in changing their mindset and behaviours in favour of supporting their children, not all parents in the community supported their children's education. There are still families in the community who do not send their daughters to school, especially once they reach higher grades. Parents were worried that EQIE's support may not be available for long. Because there are several problems affecting children, especially girls and children with disabilities, they believe EQIE should continue supporting their community. There is still a long way to go in having the entire community follow equitable practices, provide necessary support to children in their studies, and stop harmful practices such as female genital mutilation.

"If it was in my power, I would have ordered all parents in the community to attend the EQIE seminar that we attended. Our community still lags in girl's education. We have deliberately stopped our daughters from going to secondary schools as we don't think that is going to be valuable. Had someone attended that seminar, it would have been impossible for parents to continue discriminating against their daughters." (Parents, Serengeti)

"The project has involved the community only to a small extent. There are no more than 30 people who are aware of this matter, and if you look at the school there are more than 300 parents. Basically, you need to increase awareness so that every parent can benefit from the project. The benefits at the entire community level are still limited." (Parents, Tarime)

"We want EQIE to continue because we need more of that, and the problems are far from over. The training, support, and coaching should continue. We still don't have many children with disabilities integrated into the education system. The equal access to education for girls is still out of sight. Our daughters need them." (Parents, Serengeti)

The school management committee, though a part of the improvements, did not really own the changes nor were they interested in doing so. The changes depended on EQIE, and the sustainability of the outcomes are under question. Although they have been involved in the process, the discussions with SMC does not really indicate their commitment to ensure children's right to education in their community. SMC, however, raised requests for financial support to EQIE on various upgrades in school infrastructure.

"I see that the project has helped girls. After EQIE's seminar, we tried to explain to girls about their rights. Another challenge is that girls miss school during their menstrual cycle. As a committee, we gave our proposal to EQIE so that they can see how they can help us get tools like pads. Although we have not received an answer yet, I believe they will react." (SMC members, Tarime)

The main bottleneck that the project faced in ensuring sustainable outcomes was the lower level of government's involvement in implementing the project, and/or owning



the project components and outcomes. In the qualitative data, unlike usual practice, the government was one of the least referred to actors. In the opinion of government officials, the government did a favour to the project by allowing them to intervene in schools without any hesitation. The support provided by the government to EQIE is limited to the mobilization of human resources (paid by EQIE for their level of effort and administrative expenses) and encouraging schools to utilise the project's support. They have not really taken the lead in any effort. Government representatives think that there is a lot that the government could learn from EQIE's project and try to scale the same interventions to many other projects.

"The government and EQIE need to ensure that this training is accessible to many teachers and schools. The government will need to collaborate with the project so that many people benefit from the project. For example, when we go to project schools, the classroom and play-based learning are completely different from non-project schools. The government would need to ensure that quality education reaches all schools if possible." (Government representative, Tarime)

Outside of the project scope, there was nothing additional that project schools were doing. There was no difference in the proportion of project schools that conducted remedial instruction for children struggling with reading compared to non-project schools. It seems non-project schools also support their children who are struggling with reading skills. On top of that, not all school leaders were appreciative of play-based learning. There were only 2 out of 20 EQIE schools that reported not being certain whether play-based learning is very useful. The project missed out on the opportunity to work with school leaders and prioritise school as one of the community systems. Ensuring school leaders and other school-based personnel have ownership over project activities may help ensure the sustainability of the project's impacts.



CHAPTER 3 CONCLUSION & RECOMMENDATION

3.1 Conclusion

The midline study found evidence to affirm that the **EQIE project had a significant and attributable impact in improving children's reading skills and socio-emotional skills.** More importantly, the quasi-experimental evaluation confirms that the play-based learning approach can improve reading and socio-emotional skills among children in primary school (between grades 1-4). This finding is further supported by global literature from other LMICs which points to the potential impact of PBL on students' academic performance and broader skills development (UNICEF, 2021). This is important given that Tanzania is a country where the education system and schools do not receive adequate investment to support their children. **The project also contributed to minimising the variation in reading and SEL skills, i.e., to lower the difference in scores among students.** Although there was no clear pattern on which sub-groups benefited from the project, there was evidence to support that girls, children from lower socio-economic status, and lower parental education benefited in some subsets of skills. The fact that PBL can help reduce learning gaps and support educational equity is an important finding that has also been echoed in literature from high-income countries (e.g., Allee-Herndon et al., 2021), and that deserves further research in LMICs, given large learning disparities across groups of children. The improvement in the learning outcomes corroborates with the adaptation of PBL practice, participation in reading clubs, and supportive parental behaviours. It is to be noted that the changes happened in schools that were reportedly struggling to deliver well during the baseline. Hence, the project interventions, especially the components related to PBL and reading culture, are worthy of replication/expansion to other low-performing schools.

Two core themes that emerged from the data highlight important gains/learning for EQIE.

- Parents had an emotional value attached to reading materials, and the act of reading the books provided by EQIE. When parents saw that their children were reading books (borrowed from reading clubs/centres), parents were encouraged to support their children's education. Moreover, thanks to PBL that made the learning joyful for children, parents have become more hopeful and optimistic about their children's future. Parents who benefited from the orientation events were more aware of how to provide a better reading environment for their children at home. EQIE was successful in leveraging parental aspirations for their children, and the emotional value attached with the act of reading.
- The campaign to leave no one behind (to bring back children with disabilities and girls who were out of school possibly due to the poor socio-economic condition of their family) was the talk of the town. Although there was no doubt that the initiative had a profound effect on the children who resumed their education, the campaign was encouraging for the parents/community, and was an empowering experience for members of the School Management Committees (SMCs). This community component helped to create a positive image of EQIE among parents/other members of the communities involved.

Although the project succeeded in meeting its desired outcomes, in its current format, there are challenges to its scalability and replicability. There are three fundamental reasons behind this argument. First, the project's comprehensive set of activities is expensive and not feasible for schools and the government to continue without EQIE's support. If the project were to take a narrower goal of improving the reading skills and targeted SEL skills, however, not all interventions would be necessary, and the cost could be reduced. Second, because all activities were implemented in all locations, there is no precise evidence to



suggest which activities were more impactful and worth replication. Third, and may be the most important reason, the school systems and local government authorities are not prepared enough to continue the interventions on their own. There were no expectations set for school leadership or the local government to own and run the interventions on their own. Even if they were ready to own and run the show, implementation of all activities would be expensive and beyond the scope of the project schools that are struggling to offer basic school infrastructure. Indeed, scaling and sustaining impacts of educational interventions require fostering government ownership at all levels of the system ([Curtis Wyss et al., 2023](#)). Scaling research from Tanzania also points to the challenge of finding ways to maintain incentives for teachers or other education facilitators at scale and transition them to government ownership (ibid).

The program theory assessment shows that the project has four distinct components (teacher professional development, reading culture/after-school supplemental reading, safe learning environments, and leave no one behind) that are interrelated and complementary to each other. The goal related to the holistic learning outcomes (including cognition, motor, reading, numeracy, writing, and socio-emotional skills), however, is outside of the scope of the project. The focus of the project was specifically on reading and socio-emotional skills. All components were equally valuable. The interventions on TPD helped develop children's reading and socio-emotional skills but lacked a more rigour particularly on the socio-emotional skills. In particular, stakeholders' perceptions echoed the broader literature about the ineffectiveness of cascade models of teaching and the need for more ongoing support for teachers through coaching and mentorship (e.g., [Popova et al., 2022](#)). Some elements to promote reading culture, especially the provision of reading clubs in school, supplementary reading classes, distribution of reading materials, and orientation for parents to support reading habits among children were well targeted to improve reading skills. Although the components of creating a safe learning environment in schools had a theoretical connection to the desired goal, the links were not well established within the project context. As a result, the project was successful in making the schools much safer compared to the non-project schools but the harmful practices such as corporal punishment were not annihilated in the project schools. Except for the activities encouraging out-of-school children with disabilities and girls to return to school, all other community-level activities did not contribute to the goal to the same effect as the TPD. In addition, monitoring mechanisms were used more to ensure that the project complies with its implementation plan rather than to generate learning to iteratively update the theory of change or make improvements to implementation.

In summary, the midline evaluation found conclusive evidence to support that TPD contributes to improved reading and SEL skills among children, but it was not possible to conclude whether reading centres and several community-level awareness-raising activities had an impact on children's reading skills. Project stakeholders found the TPD and school-level reading clubs to be more effective than the community-level awareness activities.

3.2 Recommendations

We recommend EQIE to review the results of the midline evaluation and determine a set of contextually specific recommendations. The evaluation team has identified the following recommendations.

Strengthen and improve

- **Update the theory of change and prioritise school-based interventions**
 - Update EQIE project goals, so that they have a sharp focus on reading skills and socio-emotional skills. We recommend that EQIE identifies specific socio-



emotional skills they would like children to improve on and use TPD on PBL to enhance those skills.

- Focus on areas that EQIE has established expertise in and collaborate with other actors/agencies (or continue collaborating with local actors) to acquire support in areas that are equally important but fall outside of EQIE's scope of expertise such as community level orientation of parents, training/capacity building of school management committees, and campaign against GBV.
- Establish Leave No One Behind as a separate project implemented only in schools and communities where there are many students outside of school. We recommend EQIE try out a modality that fosters school leadership (amongst principals, SMCs, and PTAs), and accountability of local government authorities to bring out-of-school children back to school.
- Develop a safe and inclusive learning environment component as a part of the TPD curriculum and collaborate with school leadership to set up child protection mechanisms in schools, including through the use of teacher codes of conduct and zero tolerance policies for corporal punishment.
- Set expectations clearer with parents, school leadership, and local governments on what the project wants from them in terms of their contribution and maybe a change of behaviours. One way of doing that could be to write down and publicly share common goals and commitment.

- **Take initiation to sustain results**

- Work with school leadership and local governments to set up teacher performance evaluation mechanisms that directly incentivize teachers to utilise PBL approach (and/or invest enough time to prepare for the classroom and ensure full participation of children in the teaching learning activities).
- Continuously refresh the cohort of trainers, provide refreshers to existing trainers and previously trained teachers, and set up a mechanism to train new teachers soon after they join the service.
- Work with school leaders and local government to make materials and technical support available for teachers as needed. We recommend EQIE to experiment with several innovative ways. One possible approach could be to set up a seed fund for teachers to buy necessary raw materials and develop teaching learning materials frugally.
- Implement school-targeted interventions and reach out to parents and communities through school-level mechanisms such as SMCs, PTAs, and school events instead of community seminars and awareness events.
- Leverage on parental aspirations for children to strengthen parent-teacher-children communication loops. The communication between parents and children, and children and teachers strengthened, but the circle was not complete. Parents and teachers were yet to communicate effectively and resolve their differences in expectations from each other.

- **Strengthen MEL practices to continuously inform the theory of change**

In addition to being intentional about experimenting with several different project components/activities, we recommend that EQIE strengthens its MEL practices by:

- Shifting the focus of the monitoring mechanism from compliance to learning. We recommend EQIE set up a monitoring mechanism that ties very closely with its theory of change, so that data collected can be used to make changes to the theory of change and project activities throughout the project cycle. The integration of tools such as bottleneck monitoring can be helpful to track closely with the theory of change.



- Prioritising observable metrics over self-reported data points. EQIE depended on self-reported metrics (such as the percentage of children who believe their school is safe) to report on project performance. These metrics are unreliable and less helpful in making robust evidence-informed decisions.
- Find an alternative to EGRA for the measurement of reading skills because the test suitable for early grades (1-2) hit the ceiling effect for grade 4 children in project schools. An approach could be to customise EGRA to match the reading level of children in grade 4 or 5¹⁴. We also recommend using school level learning outcomes data as and when possible.

Scale

- **Scale project elements that were proven to be successful, especially the in-service TPD on PBL** in collaboration with local governments. This might require the following changes: (i) advocating to integrate PBL in the government's pre-service teacher training curriculum, (ii) continuing the work to secure alignment of the PBL training and material development with the school curriculum, (iii) advocating to integrate PBL related elements in teacher performance evaluations, and (iv) creating or strengthening ongoing school-based supervision and support mechanisms to keep teachers motivated to apply PBL. Also, consider scaling reading clubs inside schools and set up an easy procedure for children to borrow reading materials to take home.
- **Run experiments to identify and scale effective low-cost project interventions**
Rather than running a quasi-experimental study covering project schools, we recommend EQIE to break the project into different components and run experiments to identify low-cost yet successful interventions. Because we know that the project was successful in delivering the desired results, we recommend EQIE to be intentional about experimenting to identify more precisely which elements in the project were valuable in driving the results. It might also be valuable to run experiments to identify which PBL components are more valuable than others. The experiments will help EQIE to cut down activities that have the least value for money and make the project more efficient as well as scalable.

3.3 Limitations

In Tanzania, school-level data collection in all 40 schools was completed within 10 days because the government permitted us to collect the data within the window of October 5 to October 15, 2023. It required the utmost pace and not enough time to review, and course correct. We were not able to ensure the data quality to the extent initially proposed. As per the suggestion of EQIE Tanzania, we mobilised government assessors to conduct classroom observations. Because they were not trained in conducting the mood-metre exercise, we were not able to collect mood-metre data from children in Tanzania. Due to the short data collection window, surveys were not conducted with community leaders. We were not able to reach out to enough school stakeholders. Instead, they were reached out for qualitative interviews and focus group discussions. And the information on community details were captured through a parental survey. We covered the parents of all children who were included in the evaluation study.

¹⁴ There are also some initiations to develop higher grades reading assessments such as secondary grade reading assessments (SeGRA). For additional reference:
<https://www.rtinetwork.org/essential/assessment/screening/screening-for-reading-problems-in-grades-4-through-12>



We primarily used midline comparison of project and non-project schools controlling for several confounders instead of difference in difference (DID) estimators. There are three main reasons behind it: (i) the attrition from the midline to baseline data was very high. More than 50% of baseline students were not tracked during the midline, (ii) many items that were included in the midline study were not available during the baseline to conduct any difference in difference analysis, and (iii) test scores and other metrics were not significantly different for project and non-project schools during the baseline. Hence, the comparison between project and non-project schools during the midline is as good as the difference in difference estimator. Wherever we have applied the DID estimator, we found that the attrition was random, and the estimates are unbiased. There were no limitations related to the estimator that could affect the results. The differences were of a greater margin, and the impact demonstrated a solid and unwavering pattern.

There was a sign of spillover effects that spread from project schools to non-project schools. It might be because of the transfer of teachers from project schools to non-project schools. Teachers in at least one in 20 non-project schools reported receiving training on play-based learning. It was not possible to separate out the additive effects of children's engagement in additional activities outside of TPD because the reported participation in those activities such as reading clubs was more than 95 percent.

We anticipated using school-level data to validate the results from other sources of data, especially related to the learning outcomes. However, we did not get data from all schools, and the data available was either missing or inaccurate to the extent that we were not able to use it. Lastly, we could not meet our original target in the number of interviews conducted with government officials. No additional government officials were available for the interviews even after rounds of follow up.



REFERENCES

- Allee-Herndon, K.A., Roberts, S.K., Hu, B. *et al.* Let's Talk Play! Exploring the Possible Benefits of Play-Based Pedagogy on Language and Literacy Learning in Two Title I Kindergarten Classrooms. *Early Childhood Educ J* **50**, 119–132 (2022). <https://doi.org/10.1007/s10643-020-01141-6>
- Bendini, M., & Devercelli, A. E. (2022). *Quality Early Learning: Nurturing Children's Potential*. World Bank. <https://doi.org/10.1596/978-1-4648-1795-3>
- Elimu. H. (2020). The state of violence against school children in Tanzania Mainland: An exploratory study. 1–128. <https://www.end-violence.org/sites/default/files/paragraphs/download/The%20State%20of%20Violence%20Against%20School%20Children%20in%20Tanzania%20Mainland.pdf>
- Jensen, H., Pyle, A., Zosh, J. M., Ebrahim, H. B., Scherman, A. Z., Reunamo, J., & Hamre, B. K. (2019). *Play facilitation: The science behind the art of engaging young children*. The LEGO Foundation. https://cms.learningthroughplay.com/media/ok2hjr/bh/play-facilitation_the-science-behind-the-art-of-engaging-young-children.pdf
- Mardell, B., Ryan, J., Krechevsky, M., Baker, M., Schulz, S., & Constant, Y. L. (2023). *Pedagogy of Play: Supporting playful learning in classrooms and schools*. ProjectZero. <https://pz.harvard.edu/sites/default/files/PoP%20Book.pdf>
- Mendenhall, M., Chopra, V., Falk, D., Henderson, C., & Cha, J. (2021). *Teacher Professional Development & Play-based Learning in East Africa: Strengthening Research, Policy, and Practice in Ethiopia, Tanzania, and Uganda*. Teachers College, Columbia University. <https://inee.org/resources/teacher-professional-development-play-based-learning-east-africa-strengthening-research>
- Play Matters, & Sesame Workshop (Directors). (2023, June 14). *Defining and Framing Learning Through Play in East Africa: A Cross-Country Dialogue of Findings from PlayMatters Formative Research*. <https://www.playmatters.org/en/events/defining-and-framing-learning-through-play-east-africa-cross-country-dialogue-findings>
- Popova, A., Evans, D. K., Breeding, M. E., & Arancibia, V. (2022). Teacher professional development around the world: The gap between evidence and practice. *The World Bank Research Observer*, 37(1), 107-136.
- UNICEF. (2018). *Learning through play: Strengthening learning through play in early childhood education programmes*. United Nations Children's Fund (UNICEF) and The LEGO Foundation. <https://www.unicef.org/sites/default/files/2018-12/UNICEF-Lego-Foundation-Learning-through-Play.pdf>
- World Bank. (2021). Program Information Document: Boost Primary Learning Program. Dar-e-Salam: World Bank.
- World Bank, Bill & Melinda Gates Foundation, FCDO, UNESCO, UNICEF, & USAID. (2022). *Guide for Learning Recovery and Acceleration: Using the RAPID Framework to Address COVID-19 Learning Losses and Build Forward Better*. World Bank. <https://thedocs.worldbank.org/en/doc/e52f55322528903b27f1b7e61238e416-0200022022/related/Guide-for-Learning-Recovery-and-Acceleration-06-23.pdf>



Appendix 1. List of metrics, baseline value, and source of information

Table 26: List of metrics, baseline value, and source of information

Code	Indicators	Definition	Disaggregation	Tool	Tanzania	
					Baseline	Midline
1000.1:	#/% of children in target educational institutions achieving at least a minimum proficiency level in reading in grade 4	The five core reading skills are letter knowledge/phonics, phonemic awareness, vocabulary, reading fluency, and comprehension. Minimum proficiency level is defined here as the benchmark of basic knowledge in literacy assessment Task 5 (reading with comprehension). Benchmarks should be contextualised in each country and project to meet MoE policy objectives.	Sex, impairment, marginalized identity markers[1]	Learner Assessment (EGRA)	77%	Project Schools: 98.1% Girls: 98.2% Boys: 98.1% Serengeti: 96.2% Tarime: 100% Non-project schools: 53%
1000.2	#/% of children in target educational institutions with increased life skills*	Life skills include cognitive and socio-emotional learning competencies contained in the holistic child development framework. Usually measured using validated tools such as IDELA, ISELA, and DAP. Report the aggregate profile of each competency area and individual skill value. Midline and final evaluation values will help determine whether a child has improved in a skill area or not. Using a comparison group, a change in the skill value could be attributed to the project intervention.	Sex, impairment, marginalized identity markers	Learning Assessment (ISELA)	n/a	Project Schools: 78.2% Girls: 80.8% Boys: 78.2% Serengeti: 78.4% Tarime: 78% Non-project schools: 39.5%
1100.1	#/% of teachers demonstrating improved teaching practices to enhance children's reading skills	Teachers are expected to demonstrate knowledge and practice in teaching the five core skills using PBL (use of play/games & RCA). A teacher is deemed to have demonstrated improved skills in teaching reading if s/he applies literacy instruction strategies using PBL approach relevant for the lesson observed. And also evidences these in his/her lesson plan.	Sex, Training Status (RTP or No RTP training); teaching grade; teacher qualification	Classroom observations	54%	Project Schools: 66% Serengeti: 72.6% Tarime: 60.6% Female Teacher: 67.7% Male Teacher: 64.2% Non-project schools: 30.5%
1100.2	#/% of children who report feeling that the PBL activities their teacher practiced had a positive effect on their reading and life skills	Children express that their teacher(s) use PBL activities in class and that the use of those activities and strategies have helped improve their reading and life skills.	Sex, grade, impairment	Learner Assessment	24%	Project schools: 42.6% Girls: 44.4% Boys: 40.8% Serengeti: 41.7% Tarime: 43.5% Non-project schools: 9.2%
1110.2	#/% of teachers who report receipt of		Sex, Training Status (RTP or No	Teacher Survey	22%	Project Schools: 48.6% Female teachers: 39.1%



Code	Indicators	Definition	Disaggregation	Tool	Tanzania	
					Baseline	Midline
	appropriate level of support to improve their knowledge and practice of PBL approaches to enhance children's reading skills	Support and supervision mechanisms for teachers to function effectively as defined in INEE minimum standard 3 on Support and Supervision with particular emphasis on the following: • Adequate teaching and learning materials and space are available (guidance note 1). • Teachers are involved in professional development that contributes to their motivation and support (guidance notes 2-3). • A transparent, accountable supervisory mechanism provides for regular assessment, monitoring and support for teachers (guidance notes 2-3). Teachers receive coaching and mentoring support. • Performance appraisals for teachers are conducted, documented and discussed regularly (guidance note 4).	RTP training); teaching grade			Male teachers: 66.7% Serengeti: 42.1% Tarime: 56.3% Non-project schools: 0%
1200.1	#/% of children who routinely participate in supplemental reading activities	Supplemental reading activities are reading activities outside the classroom and school hours. Happening in the home, community reading centres/clubs/reading days out. This indicator counts children who participated/attended reading club meetings/after-school reading activities in the past week. Focus on the reading club/centre/days out activities, and then ask if they have been engaged in any other activities (read-a-thons, reading to siblings etc to triangulate).	Sex, impairment, Grade 1, Grade 4	Learner Assessment (Background)	31%	Project Schools: 66.7% Girls: 65.7% Boys: 67.8% Serengeti: 73.5% Tarime: 60.2% Non-project schools: 30.6%
1200.2	#/% of children who report positive changes in their home, school, and community to support their reading	Positive changes such as parents/siblings read to child, helps child do homework, take me to community centre to read, buy my books to read, teacher use games, teacher read aloud, teacher use word cards, school has reading hour and story books for children to read, community has reading centre/club with trained facilitators and books etc that support children reading skill development. Disaggregated by setting type (home, school, and community), sex and impairment. Refer to the Learning Together Toolkit Session D for home literacy environment expectation	Sex, impairment, marginalized identity markers	Learner Assessment (Background)	22%	Project Schools: 58.3% Girls: 62% Boys: 54.5% Serengeti: 63.5% Tarime: 53.2% Non-project schools: 18.9%
1210.1	#/% of parents that report using home-based reading activities with their children (by type)	Parents refer to primary caregivers of early grade children in the project's target school community. Home based reading activities include help child do homework, read to child, tell story to child, set reading corner for child, play literacy games with child, etc (refer to Learning Together Toolkit). Proportion of parents who report engaging in any of these activities with children at home in the past week are counted in this indicator.	Sex; type of activity, marginalized identity markers	Learner Assessment	58%	Project Schools: 93% Girls: 94% Boys: 91.9% Serengeti: 94.3% Tarime: 91.7% Non-project Schools: 65.8%
1210.2	# of reading initiatives provided by parents, teachers, children, and	Organized reading events initiated and led by parents/ /teacher/children/community with the aim of encouraging and enhancing the habit of reading among children in early grade (Grade 1-4). It includes reading competition, learning days, reading events, radio broadcasting,	N/A	N/A – to be captured through RTP monitoring	Not recorded in the baseline	(To be added by RTP)



Code	Indicators	Definition	Disaggregation	Tool	Tanzania	
					Baseline	Midline
	community (disaggregated by type)	reading olympics, reading marathon, international reading days, and reading summer activities.				
1300.1	#/% of schools that are conducive to the physical well-being of learners	School meets INEE minimum standard 3 for facilities and services as follows: - Learning sites and structures are safe and accessible for all learners, teachers and other education personnel (see guidance notes 1-4). • Temporary and permanent learning environments are repaired, retro-fitted or replaced as needed with disaster-resilient design and construction (see guidance notes 2 and 4). • Learning spaces are marked by visible protective boundaries and clear signs. • Physical structures used for learning sites are appropriate for the situation and include adequate space for classes, administration, recreation and sanitation facilities (see guidance notes 2 and 4). • Class space and seating arrangements meet agreed ratios of space per learner and teacher in order to promote participatory methodologies and learner-centred approaches • Adequate quantities of safe water and appropriate sanitation facilities are provided for personal hygiene and protection, taking into account sex, age and people with disabilities (see guidance notes 3 and 5-6). • Skills-based health and hygiene education is promoted in the learning environment (see guidance note 6). • Schools and learning spaces are linked to child protection, health, nutrition, social and psychosocial services (see guidance note 8)	Geography/District, size of school, school type, RTP support (if applicable)	Principal Interview	25%	Project Schools: 50% Serengeti: 50% Tarime: 50% Non-project schools: 50%
1300.2	#/% of schools that meet criteria for emotional safety/emotional well-being	School is considered emotionally safe for children if it meets all 3 conditions 1. Education staff demonstrate participatory, inclusive, positive discipline and gender-sensitive practices in the school 2. Absence of anti-bullying behavior with clear rules against gender based violence 3. Functional referral system with trained point person for child protection and psychosocial support Refer to INEE minimum standard 2 on protection and wellbeing Guidance notes 2-4, and 8 for details	Geography/District (Rural vs Urban), size of school, school type, RTP support (if applicable)	Teacher Survey	15%	Project Schools: 31.4% Female teacher: 26.1% Male teacher: 41.7% Serengeti: 31.6% Tarime: 31.3% Non-project schools: 0%
1300.3	#/% of children who report feeling safe and included in the school learning environment (disaggregated M/F; impairment)	Refer to relevant sections of INEE minimum standards on Protection & Wellbeing; and Facilities & Services guidance notes 2- 4, 8 and 1-8 respectively. Children who report positively on these are counted.	Sex, impairment, marginalized identity markers	Learner Assessment	75%	Project Schools: 82.7% Girls: 83.3% Boys: 82% Serengeti: 77.7% Tarime: 87.5%



Code	Indicators	Definition	Disaggregation	Tool	Tanzania	
					Baseline	Midline
						Non-project Schools: 68.9%
1300.4	#/% of teachers with access to appropriate psychosocial support to improve their well-being	Support mechanisms for teachers function effectively as defined in INEE minimum standard 3 on Support and Supervision with specific focus on: - Appropriate, accessible and practical psychosocial support for teachers (see guidance note 6)	Sex, Training Status (RTP or No RTP training); teaching grade	Teacher Survey	70%	Project Schools: 68.6% Female teacher: 65.2% Male teacher: 75% Serengeti: 57.9% Tarime: 81.3% Non-project schools: 65%
1300.5	#/% of education professionals (teachers, principals) who have considered leaving the sector over the past year	Self-reported measure from teacher interview and principal interview. Calculated as # of educators who have considered leaving in past year / # of educators interviewed	Sex, Training Status (RTP or No RTP training); teaching grade	Teacher Survey, Principal Survey	8%	Project Schools: 12.7% Teacher: 11.4% Principal: 15% Non-project schools: 7.5%
1310.1	#/% school community members that exhibit knowledge in creation and maintenance of safe learning environments	School community members are SMC/PTA, School Council, School Inclusion Committee, Coaches, School administrators, District Education Officials, National Education Agencies/Ministries, Political Leaders, Religious Leaders. Exhibition of knowledge in enhancing child protection, disability inclusion, promoting child rights, gender equity, and dealing with corporal punishment, abuse, and/or GBV to achieve physical and emotional safety in the school. Data is disaggregated by school community leader type.	Sex, community members/leaders	Community Leader Survey	44%	Project Schools: 90.9% Serengeti: 98.1% Tarime: 82.9% Non-project schools: 79.6%
1310.2	#/% of children who know where and how to formally report a protection violation	Number of children who correctly identify where and how to formally report a protection violation (defined locally) divided by the number of learners assessed		Learner assessment survey	80%	Project Schools: 97.4% Girls: 97.2% Boys: 97.6% Serengeti: 95.2% Tarime: 99.5% Non-project Schools: 76.9%
1400.2	# students (F/M) enrolled in target educational institutions (disaggregated by level of education and CWD)	Number of male and female students that enrol in educational institutions directly supported by the project. An institution can be counted as 'supported' when goods (books, learning materials, and infrastructure) and services (e.g. training, inspectors/supervisor visits, and training of SMC/PTA members) have been provided directly to that institution. In general, direct support to institutions are activities/interventions where the educational institution has been directly targeted. For example: A training that generally strengthens the knowledge of inspectors/supervisors in a district alone would not qualify for including all students in that given district as supported. However, if the inspectors are		Principal survey	(M - 13,541; F- 13,571)	(to be added by RTP)



Code	Indicators	Definition	Disaggregation	Tool	Tanzania	
					Baseline	Midline
		also provided with funds and transport to inspect particularly marginalized schools, students in these specific schools can be included as 'supported'. Similarly if teachers or PTA/SMC members from a school have been supported with transport, food or accommodation to attend a training the school can be included as 'supported'.				
1410.1	% of community members and leaders that can easily identify at least 3 barriers to education faced by girls and children with disabilities (disaggregated by M/F)	School community members and leaders are SMC/PTA, School Inclusion Committee, Coaches, Junior Leaders, School administrators, CSO partners, District Education Officials, & National Education Agencies/Ministries, Political Leaders, Religious Leaders. Exhibition of knowledge in enhancing child protection, disability inclusion, promoting child rights, and dealing with corporal punishment, abuse, and/or GBV to achieve inclusive education. Community members and leaders who are able to identify any 3 of the barriers to inclusive and gender responsive education are; - Corporal/physical punishment in schools - Schools Infrastructure not accessible and friendly to persons with disability - Schools have no appropriate menstrual hygiene facilities - Teachers lack training in positive discipline - Lack of means of transport for persons with disability and those living far from school - Early Marriage - Restrictions on returning to school for out-of-school children - Gender norms. - Parents place less value on education for girls since they will get married Community attitudes - Inability to cover expenses such as assistive technology/aids - Requirements for documentation to enrol in schooling - Restrictions on expectant mothers attending school	Sex, community members (parents), community leaders (SMC, PTA, religious leaders), Education Officials (Principals), and CSO Leaders	Community Leader Survey	50%	92%
1410.2	#/% of children who report that they have witnessed their school taking action to make girls and CwDs feel included. (disaggregate	Actions for emotional, social and physical wellbeing of children; and gender/social inclusion taken by school.	Sex, marginalization type	Learner Assessment	061%	Project Schools: 96% Girls: 97.7% Boys: 94.3% Serengeti: 97.2% Tarime: 94.9%



Code	Indicators	Definition	Disaggregation	Tool	Tanzania	
					Baseline	Midline
	by Sex and Marginalization type)					Non-project Schools: 71.5%



Appendix 2. Demographic details of the midline sample

Table 27: Demographic details of midline sample

Metrics	Project	Non-project	Remarks
Children covered in the midline	377	370	--
Children tracked from baseline to midline	193	162	--
Parents interviewed	377	370	--
% of girls	51.0%	48.7%	No significant difference
% of boys	49.0%	51.4%	No significant difference
% of children who repeated a grade	9.7%	11.5%	No significant difference
Average age of children	10.9 (1.21)	10.6 (1.07)	No significant difference
Average family size	7.2 (2.09)	7.6 (2.08)	No significant difference
% children who attended early childhood development classes	92.3%	82.1%	Significantly higher for project schools
Average socio-economic index	7.7 (3.40)	7.6 (3.49)	No significant difference
Risk profile index (adversities faced by children)	0.5 (1.02)	0.9 (1.39)	Significantly lower for children in project school

Appendix 3. Field Implementation Report

Background

EQIE is implemented in the Mara Region in the Serengeti and Tarime districts. The midterm evaluation was conducted in the same regions drawing a sample from both control and treatment schools.

Key Achievements

- The data collection was conducted after a 6-day training. The training commenced on October 6 and concluded on October 11, 2023. It comprised in-class sessions and a two-day piloting phase. A total of 23 enumerators were trained.
- Actual school-based data collection began on October 12 and continued until October 16 in Serengeti District, then moved to Tarime DC from October 17 to 21. This was to ensure survey completion before the grade 4 examinations starting on October 23, 2023. Government restricted any visit to school post October 21, 2023.
- We completed tests with 748 students and surveyed 747 parents or caregivers. 40 tests were conducted by 2 enumerators to compile data on inter-rater reliability.



- After the data collection in schools, data collection in the community commenced, including Key Informant Interviews (KII) with parents, school committees, case studies, Focus Group Discussions (FGDs), and KII with government stakeholders.
- Classroom Observation was conducted by 11 Education Quality Classroom Observation, School Principal Survey, and Teachers Survey were conducted with 100% completion.
- and school information forms were collected from 28 out of the expected 40 schools, achieving 70% of the target as seen below.

Key Challenges

- Because the local government allowed data collection only during the window of 10 days before October 21, 2023, we had to train and mobilise more enumerators than initially planned, and also led to prioritisation of the research activities and also increased the cost. As a result, some tools - community leader survey and child mood metre - were dropped for Tanzania.

Table 28: Expected and actual frequency

Tools	Expected frequency	Achieved	Remarks
Classroom Observation	60	60	
School Principal Survey	40	40	
Teacher's Survey	60	54	1 treatment school and 1 control school in Serengeti, teachers declined to be interviewed because of personal reasons.
Parent's Survey	800	747	Some parents of children were not traceable, and there were more than two children of one parent in some cases.
Tests with children	800	747	Random replacements were made to cover for the number of children who were not traced from the baseline

Table 29: EGRA/ISELA Frequency Details

District	School	Actual Number
Serengeti	BOKORE	18
Serengeti	GEITASAMO	20
Serengeti	KAMBARAGE	19
Serengeti	MAGHAKA	18
Serengeti	MANYAGO	17
Serengeti	MANYATA	18
Serengeti	MASEBE	18
Serengeti	MATARE	19
Serengeti	MERANGA B	17
Serengeti	MONUNA	19
Serengeti	MOROTONGA	18
Serengeti	MOSONGO	18
Serengeti	MUGUMU	19
Serengeti	NATTABIGO	18



Serengeti	NYAKITONO	18
Serengeti	NYIBOKO	24
Serengeti	NYICHOKA	19
Serengeti	NYISENSE	18
Serengeti	RIGICHA	19
Serengeti	WAGETE	16
Tarime	GWITARE	20
Tarime	ITIRYO	20
Tarime	KANGARIANI	20
Tarime	KIMUSI	19
Tarime	KUBITERERE	20
Tarime	MAIKA	19
Tarime	MAKERERO	20
Tarime	MUGWERA	19
Tarime	MURINGI	19
Tarime	MUUNGANO	19
Tarime	NKEREGE	19
Tarime	NYABISAGA	19
Tarime	NYABUSARA	20
Tarime	NYAMWAGA	19
Tarime	NYANKONI	18
Tarime	NYANSANGERO	19
Tarime	NYANTIRA	14
Tarime	NYEIGERA	20
Tarime	RENGUMANCHE	19
Tarime	ROSANA	19
Grand Total		747*

Table 30: List of enumerators

S. No.	Name	Sex
1	Isaya Mtung'e	Male
2	Hamida	Female
3	Aneth Kedson	Female
4	Ritagati Kisegenya	Female
5	Priscila Daniel	Female
6	Musa Mtizi	Male
7	Edson Ngonyani	Male
8	Kenneth Haule	Male
9	David Sanga	Male
10	Frank Zulu	Male
11	Godfrey Shayo	Male
12	Anna Hiluka	Female
13	Salmoni Daud	Male
14	Christina Nyambega	Female



15	Elisha Joel	Male
16	Morris Masero	Male
17	Revocatus Joseph	Male
18	Mariam Mnanka	Female
19	Amos Samson	Male
20	Wilson Gyumi	Male
21	Mary Samweli	Female
22	Christolumba Birai	Female
23	Flora Lameck	Female

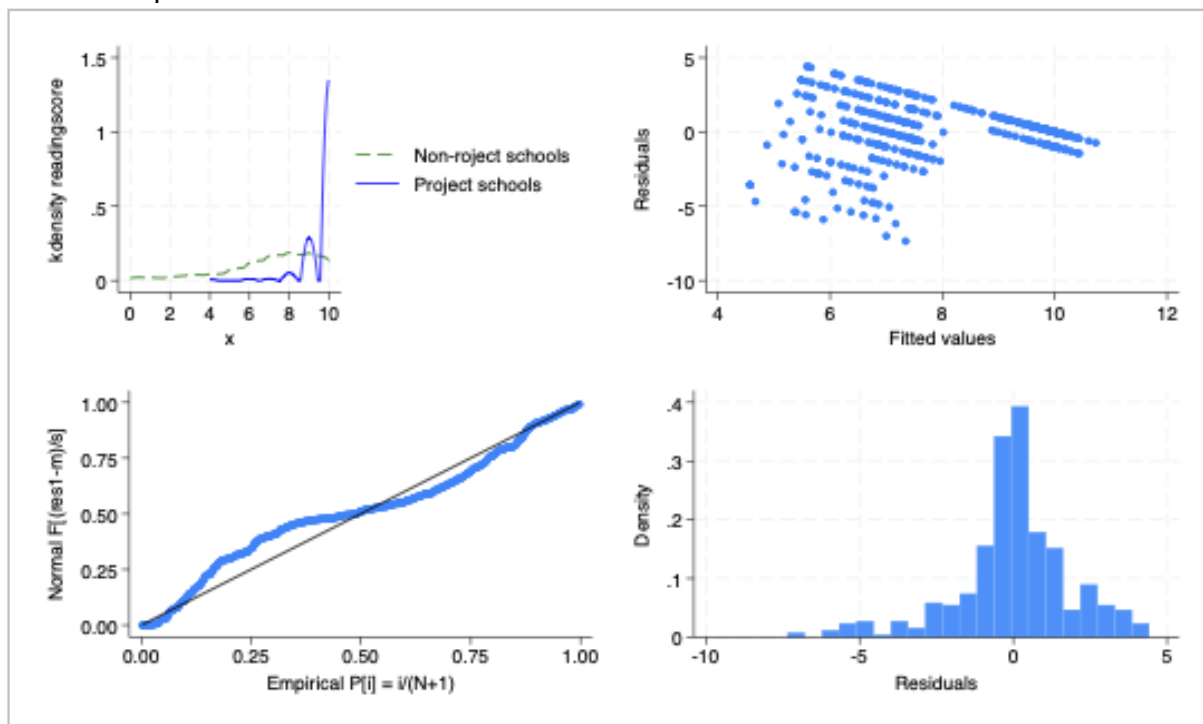
Table 31: List of government staff involved

S. No.	Assurer's Name	District
1	Michael Mwikwabe	Tarime
2	Abasi Munde	Tarime
3	Joseph Pangani	Tarime
4	Bibiana Joseph	Tarime
5	Chacha Ryoba	Tarime
6	Wambura Mhoni	Serengeti
7	John Josiah	Serengeti
8	Nyoyo Andrea	Serengeti
9	Malima Mafwimbo	Serengeti
10	John Magoma	Serengeti
11	Albert Kuvunga	Serengeti

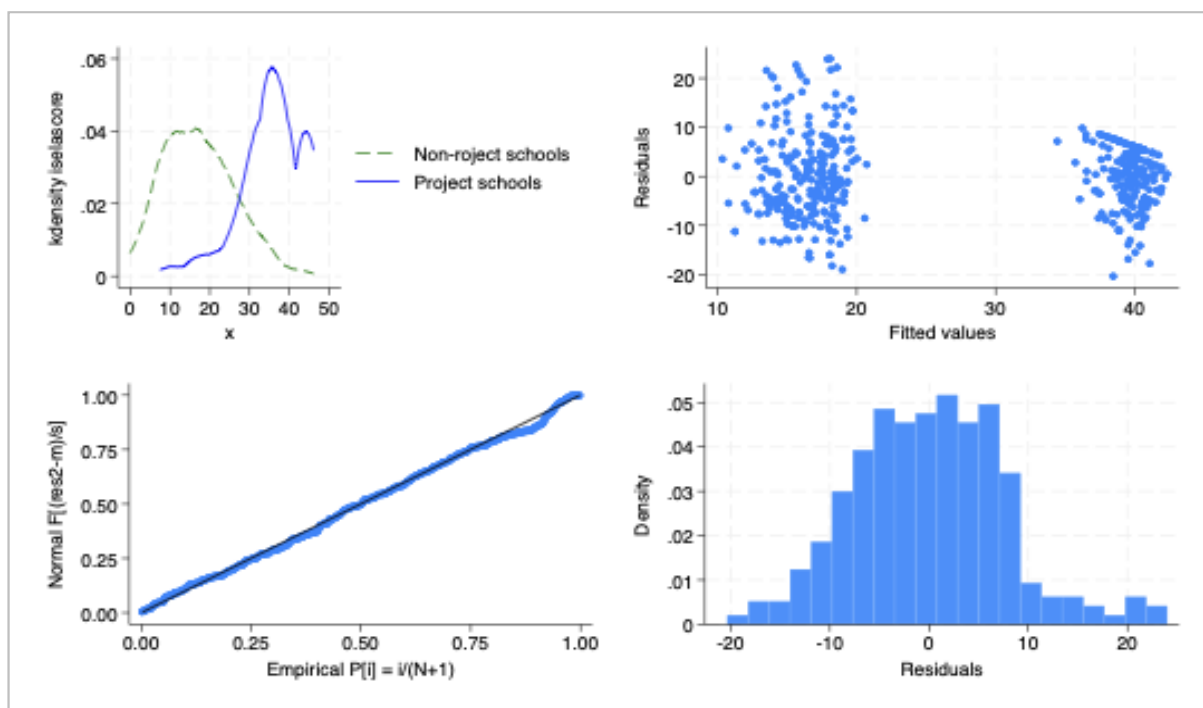


Appendix 4. Properties of residuals

EGRA composite score



ISELA score





Appendix 5. Key OLS regression results table

Outcome: EGRA results

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Letter identification	Phonetics score	Familiar words	Invented words	Word per minute	Words per minute	Reading comprehension	Reading comprehension
Project vs non-project	-0.615 (0.660)	5.316*** (0.545)	4.423** (1.932)	13.663*** (3.199)	17.321** (7.719)	17.321** (7.719)	2.088*** (0.339)	3.400*** (0.474)
Girls	-0.700** (0.336)	-0.717** (0.289)	-1.652* (0.984)	0.703 (1.627)	1.603 (2.123)	1.603 (2.123)	-0.058 (0.137)	-0.040 (0.136)
Treatment * Girls	0.825* (0.494)	0.635 (0.396)	2.284* (1.375)	0.175 (2.395)				
Socio-economic index	0.022 (0.043)	-0.065* (0.034)	0.137 (0.118)	0.220 (0.210)	0.068 (0.347)	0.068 (0.347)	-0.026 (0.023)	-0.023 (0.022)
Treatment * parental education					-0.876 (1.685)	-0.876 (1.685)		-0.447*** (0.114)
Parental education	-0.071 (0.127)	0.130 (0.097)	0.510 (0.340)	0.553 (0.617)	1.797 (1.360)	1.797 (1.360)	0.202*** (0.065)	0.441*** (0.089)
Age	0.000 (0.002)	-0.000 (0.001)	0.003 (0.004)	0.006 (0.008)	0.017 (0.014)	0.017 (0.014)	0.001 (0.001)	0.001 (0.001)
Repeated any grade	0.507 (0.342)	0.120 (0.352)	-4.039*** (1.207)	-1.188 (1.659)	12.569 (7.880)	12.569 (7.880)	-0.866*** (0.230)	-0.869*** (0.228)
Serengeti vs Tarime	-0.591* (0.326)	0.435** (0.200)	-0.061 (0.694)	-2.682* (1.579)	-23.790*** (4.038)	-23.790*** (4.038)	0.035 (0.133)	0.019 (0.131)
No. of siblings	0.030 (0.035)	-0.038 (0.031)	0.101 (0.110)	0.290* (0.172)	-0.292 (0.428)	-0.292 (0.428)	-0.002 (0.021)	-0.003 (0.021)
Rating on school safety	0.400** (0.162)	0.151 (0.137)	0.616 (0.473)	1.668** (0.786)	-0.710 (1.526)	-0.710 (1.526)	0.192** (0.090)	0.198** (0.090)
Rating on school accessibility	-0.058 (0.129)	0.113 (0.113)	0.190 (0.383)	0.822 (0.627)	1.878 (1.276)	1.878 (1.276)	0.193*** (0.073)	0.196*** (0.072)
Rating on gender equity in school	-0.090 (0.165)	0.279* (0.144)	1.071** (0.495)	0.210 (0.799)	-0.816 (1.617)	-0.816 (1.617)	-0.071 (0.095)	-0.095 (0.094)
Participation in project activities	-0.002 (0.080)	-0.051 (0.066)	0.246 (0.234)	0.091 (0.387)	1.797** (0.756)	1.797** (0.756)	0.012 (0.045)	0.004 (0.044)
Availability of reading materials	0.075 (0.086)	0.097 (0.069)	-0.096 (0.241)	-0.291 (0.419)	-0.072 (0.735)	-0.072 (0.735)	-0.007 (0.046)	-0.012 (0.046)
Constant	22.659*** (0.827)	1.710** (0.700)	27.292*** (2.431)	17.946*** (4.009)	52.388*** (8.740)	52.388*** (8.740)	5.761*** (0.456)	5.188*** (0.475)
Observations	459	718	755	459	332	332	755	755
R-squared	0.048	0.573	0.234	0.348	0.445	0.445	0.367	0.380

Notes. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. The participation in project activities is an index that included participation of children in the following activities: received reading materials, attended reading centers, reading clubs, child club, orientation on girls education, orientations on educating children with disabilities, extra reading sessions, and other training programs organized by RTP. Reading materials summed up the availability of textbooks, religious books, magazines, newspapers, storybooks, coloring books, comics, and other reading materials.

**Outcome: ISELA Regression Results**

VARIABLES	(1) Self-concept score	(2) Self-concept score	(3) Self-concept score	(4) Stress management score	(5) Empathy score	(6) Social relationship score	(7) Teamwork score	(8) Problem solving score	(9) ISELA score	(10) ISELA score	(11) ISELA score (fixed effects)
Project vs non-project	2.218*** (0.502)	3.348*** (0.654)	3.755*** (0.726)	1.623*** (0.216)	5.327*** (0.519)	2.997*** (0.552)	0.864*** (0.205)	1.622*** (0.267)	25.705*** (2.367)	32.441*** (3.428)	28.081*** (3.514)
Socio-economic index	0.028 (0.036)	0.113** (0.048)	0.033 (0.036)	-0.017 (0.015)	0.002 (0.037)	-0.008 (0.039)	0.011 (0.015)	0.017 (0.019)	0.043 (0.169)	0.065 (0.168)	-0.044 (0.164)
Parental education	-0.028 (0.106)	-0.025 (0.105)	0.237* (0.139)	0.018 (0.046)	0.101 (0.110)	0.041 (0.117)	-0.019 (0.043)	0.004 (0.057)	-0.070 (0.500)	1.090* (0.657)	0.071 (0.491)
Age	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)	0.001* (0.001)	-0.000 (0.001)	0.004 (0.006)	0.005 (0.006)	0.007 (0.006)
Repeated a grade	-0.618** (0.286)	-0.600** (0.284)	-0.633** (0.284)	-0.058 (0.123)	0.176 (0.296)	-0.462 (0.315)	-0.009 (0.117)	-0.120 (0.152)	-1.568 (1.358)	-1.643 (1.349)	-1.697 (1.322)
Girl vs boy	0.223 (0.213)	0.231 (0.212)	0.240 (0.212)	-0.058 (0.092)	0.116 (0.220)	0.563** (0.235)	0.088 (0.087)	0.191* (0.114)	1.131 (1.007)	1.203 (1.000)	1.182 (0.979)
Serengteti vs Tarime	-0.157 (0.270)	-0.168 (0.268)	-0.158 (0.267)	-0.082 (0.116)	-0.392 (0.279)	-0.772*** (0.297)	-0.059 (0.110)	-0.214 (0.144)	-2.438* (1.273)	-2.438* (1.264)	
No. of siblings	0.050* (0.029)	0.048* (0.029)	0.050* (0.029)	0.006 (0.013)	-0.024 (0.030)	0.082** (0.032)	0.001 (0.012)	-0.002 (0.016)	0.137 (0.139)	0.135 (0.138)	0.150 (0.135)
Rating on school safety	0.057 (0.134)	0.004 (0.135)	0.028 (0.133)	-0.032 (0.058)	0.057 (0.138)	0.042 (0.147)	0.069 (0.055)	0.055 (0.071)	0.811 (0.632)	0.686 (0.629)	-0.101 (0.628)
Rating on school accessibility	0.157 (0.107)	0.189* (0.107)	0.175* (0.106)	0.072 (0.046)	0.155 (0.110)	-0.077 (0.118)	0.024 (0.044)	-0.022 (0.057)	0.355 (0.504)	0.437 (0.501)	0.090 (0.490)
	0.208	0.190	0.182	0.032	0.368***	0.401***	0.058	-0.083	1.218*	1.100*	1.248**



Rating on promotion of gender equity in school	(0.136)	(0.135)	(0.135)	(0.059)	(0.141)	(0.150)	(0.056)	(0.073)	(0.642)	(0.639)	(0.629)
No. of project activities benefited from	-0.011	-0.014	-0.019	-0.002	-0.092	-0.051	-0.010	0.072**	0.008	-0.027	-0.610
	(0.066)	(0.066)	(0.066)	(0.029)	(0.069)	(0.073)	(0.027)	(0.035)	(0.313)	(0.311)	(0.376)
Variety of reading materials	-0.002	-0.004	-0.009	0.047	0.007	0.038	0.010	-0.007	0.214	0.181	0.550
	(0.071)	(0.071)	(0.071)	(0.031)	(0.074)	(0.078)	(0.029)	(0.038)	(0.337)	(0.335)	(0.340)
Kurya vs local/vernacular language	-0.662***	-0.679***	-0.684***	-0.180*	-0.273	-0.724***	-0.346***	-0.016	-3.517***	-3.612***	-3.930***
	(0.243)	(0.241)	(0.241)	(0.104)	(0.251)	(0.267)	(0.099)	(0.129)	(1.145)	(1.137)	(1.184)
Risk profile index	-0.001*	-0.001*	-0.001**	-0.000	-0.001*	-0.002***	-0.001***	-0.000	-0.008***	-0.008***	-0.007***
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.002)	(0.002)	(0.002)
Treatment * parental education			-0.541***							-2.373***	
			(0.186)							(0.879)	
Treatment * Socio-economic index		-0.167***									
		(0.062)									
Constant	2.887***	2.559***	2.363***	0.561*	1.396*	4.275***	2.302***	1.233***	21.299***	18.999***	26.301***
	(0.712)	(0.718)	(0.729)	(0.306)	(0.736)	(0.784)	(0.291)	(0.380)	(3.361)	(3.444)	(3.825)
Observations	459	459	459	459	459	459	459	459	458	458	458
R-squared	0.311	0.322	0.324	0.502	0.609	0.359	0.291	0.501	0.690	0.695	0.201

Notes. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. The participation in project activities is an index that included participation of children in the following activities: received reading materials, attended reading centers, reading clubs, child club, orientation on girls education, orientations on educating children with disabilities, extra reading sessions, and other training programs organized by RTP. Reading materials summed up the availability of textbooks, religious books, magazines, newspapers, storybooks, coloring books, comics, and other reading materials.



Appendix 6. Predictors of Classroom Observation

VARIABLES	(Model 1) Classroom quality	(Model 2) Classroom quality	(Model 3) Classroom quality	(Model 4) Classroom quality
Project vs non-project	23.873*** (3.832)		11.845* (6.553)	11.421* (6.628)
age	0.346 (0.462)	0.329 (0.454)	0.358 (0.457)	0.437 (0.478)
Years of exp	-0.168 (0.349)	-0.249 (0.344)	-0.292 (0.435)	-0.319 (0.439)
Educational attainment	1.519 (2.528)	2.181 (2.487)	1.914 (2.464)	1.974 (2.481)
Class size	-0.002 (0.016)	-0.004 (0.015)	-0.004 (0.015)	-0.006 (0.016)
Teaching time	-0.004 (0.069)	0.014 (0.068)	0.013 (0.067)	0.008 (0.068)
Years in the school			0.132 (0.541)	0.083 (0.550)
Received RTP training		24.731*** (3.815)	14.748** (6.691)	17.496** (8.089)
Female vs Male	-0.461 (3.863)	-0.441 (3.798)	-0.682 (3.758)	
Constant	0.083 (16.969)	-2.255 (16.736)	-3.642 (16.854)	-7.155 (17.897)
Observations	64	64	64	64
R-squared	0.428	0.447	0.479	0.482

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



Appendix 7. Detailed Analysis of EGRA/ISELA

6.1 Reading activities

Table 32: Household literacy environment

Behaviour	Baseline		Midline		Significant difference (at midline)?
	Project (N=367)	Non-project (N=378)	Project (N=427)	Non-project (N=444)	
During last 7 days, a family member read to the child	53.2%	48.5%	70.5%	38.1%	Yes
During last 7 days, a family member told a story to the child	48.4%	44.1%	72.8%	35.8%	Yes
A family member played literacy games with the child	57.7%	54.2%	80.0%	46.9%	Yes
Talked to a family member when felt sad	82.5%	88.3%	93.0%	61.5%	Yes
Talked to a family member when there was a problem with a friend	82%	87.2%	95.8%	79.3%	Yes
Asked a family member for help when working on something difficult	75.9%	70%	96.3%	77.3%	Yes
Received help from family members when working on something difficult and time consuming	67.2%	63.2%	94.0%	90.4%	Yes
Recognized if someone in the family is sad	37.3%	34.1%	77.1%	42.6%	Yes
Talk to friends when feeling sad	69.8%	70.3%	85.7%	67.4%	Yes
Seek help from friends if facing any problems at school	71.7%	75.2%	94.4%	81.0%	Yes
Ask friends for help if working on something difficult	77.8%	77.1%	96.0%	80.7%	Yes
Able to identify when friends are sad and try to support them	51.9%	44.7%	78.5%	36.5%	Yes
In last 7 days, played games with friends	82.8%	80.7%	97.4%	92.3%	Yes
In last 7 days, worked with friends on coursework/ homework	65.3%	61.9%	83.1%	52.0%	Yes
In last 7 days, worked with friends to accomplish a common goal	71.7%	69.5%	88.8%	56.8%	Yes
Average number of adults available for a conversation and help	3.14	3.27	3.67	3.27	Yes



Share with any other adults in schools when you are sad	54.8%	50.4%	80.6%	47.0%	Yes
Seek help from other adults in schools to solve problems with friends	69.1%	65.1%	94.1%	73.4%	Yes
Identify if any adults in school/home are sad	38.1%	33.5%	66.6%	25.9%	Yes
Report to a trusted adult if me or my friend were harmed by someone else	71.7%	73.6%	97.4%	77.2%	Yes
Do not have any idea how to deal with the situation if me or my friend were harmed by someone else	19.8%	17.4%	2.6%	17.6%	Yes

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

6.2 Emotional regulation

Table 33: Stress management and empathy

Emotional intelligence	Baseline		Midline		Significant difference (at midline)?
	Project (N=367)	Non-project (N=378)	Project (N=427)	Non-project (N=444)	
Identify actions to calm down					
Could identify correct actions to calm down if angry or upset	44.2%	42.8%	95.1%	51.7%	Yes
Could identify another action to calm down if angry or upset	19.1%	0%	87.2%	51.1%	Yes
Could identify third action to calm down if angry or upset	13.5%	0%	80.2%	53.9%	Yes
Dealing with sadness					
Correctly identify sad emotions	74.1%	76.6%	97.7%	67.5%	Yes
Corrently identify an action to help others in dealing with their sad emotional state	55.6%	55.6%	97.6%	76.9%	Yes
Correctly identify another action to help others in dealing with their sad emotional state	39.4%	38.9%	90.2%	57.4%	Yes
Correctly identified the reason behind why a child bumped on other while making a line	37%	38.2%	76.4%	26.9%	Yes
Feeling about a child when other started crying	29.9%	31.3%	97.2%	79.1%	Yes
Dealing with anger					



Could identify the correct feeling - anger	64.6%	57.2%	99.1%	76.3%	Yes
Correctly identify an action to help them calm down	42.9%	40.3%	97.6%	71.0%	Yes
Correctly identify another action to help them calm down	29.4%	26.9%	89.1%	46.7%	Yes
Reason behind anger: removal of the symbols on the drawing of the map	29.9%	31.3%	73.1%	24.7%	Yes
Feeling about a child when other children got angry	24.3%	26.2%	90.3%	49.5%	Yes

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

6.3 Details on Perseverance: Drawing

Table 34: Perseverance and attention span

Perseverance	Baseline		Midline		Significant difference (at midline)?
	Project (N=367)	Non-project (N=378)	Project (N=427)	Non-project (N=444)	
% completed drawing 1 in 60 seconds	51.5%	41.9%	51.8%	25.6%	Yes
Average seconds taken to complete drawing 1 (sd in the parenthesis)	66.1 (36.8)	67.7 (29.1)	48.1 (11.1)	58.1 (12.0)	Yes
% completed drawing 2 within 60 seconds	62.4%	48.4%	50.7%	22.2%	Yes
Average seconds taken to complete drawing 2 (sd in the parenthesis)	56.6 (30.3)	61.9 (25.9)	49.5 (10.6)	57.7 (7.7)	Yes
% completed drawing 3 within 60 seconds	64%	50.3%	51.4%	28.6%	Yes
Average seconds taken to complete drawing 3 (sd in the parenthesis)	54.6 (29.9)	60.3 (24.8)	48.8 (11.6)	56.6 (10.7)	Yes
% completed drawing 4 within 60 seconds	59.1%	50.5%	45.5%	24.6%	Yes
Average seconds taken to complete drawing 4 (sd in the parenthesis)	56.5 (29.2)	59.1 (21.7)	49.7 (11.0)	57.4 (12.1)	Yes

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

6.4 Dealing with conflict

Table 35: Dealing with conflict

Emotional intelligence	Baseline		Midline		Significant difference (at midline)?
	Project (N=367)	Non-project (N=378)	Project (N=427)	Non-project (N=444)	



Dealing with conflict					
Could identify an action item to deal with the first conflict situation	70.9%	71.4%	99.1%	69.6%	Yes
Could identify another action to deal with the first conflict situation	46.3%	51.5%	92.9%	59.5%	Yes
Could identify an action item to deal with the second conflict situation	33.9%	37.6%	86.5%	53.3%	Yes
Could identify another action to deal with the second conflict situation	28.3%	31.6%	85.6%	63.9%	Yes

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

6.5 Self-Awareness Concept

Table 36: Self-awareness concept

Observations	Baseline		Midline		Significant difference (at midline)?
	Project (N=367)	Non-project (N=378)	Project (N=427)	Non-project (N=444)	
When asked child attempted to draw	66.7%	65.4%	97.2%	91.1%	Yes
Child included himself/herself in the drawing	44.7%	45.5%	95.4%	91.0%	Yes
Child described what he/she hoped to happen in their lives in future	48.2%	50.9%	97.2%	89.2%	Yes
Child could explain challenges they face in achieving their goals	27.3%	30.3%	91.3%	66.1%	Yes
Child could correctly identify what will help them to overcome the challenges towards their goal	23.3%	26.7%	95.8%	90.0%	Yes
Could identify another thing that could happen in their life	18%	21%	92.0%	72.6%	Yes
Could identify another challenge that could affect their life	15.9%	20.7%	93.1	88.4	No
Could identify another person who would support them to overcome the challenges	15.3%	20.2%	96.5%	97.2%	No

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.



Appendix 8. Detailed Analysis of Changes in Pedagogical Practices

Table 37: Changes in pedagogical practices

Observations	Baseline [n-72]		Midline [n-64]		Significant difference (at midline)?
	Project	Non-project	Project	Non-project	
Classroom quality index					
Physically safe learning environment	–	–	40.2	20.3	Yes
Students identify safety concerns	41%	36.4%	26.2%	13.6%	No
Teacher identifies safety concerns to the observer	41%	36.4%	45.2%	22.7%	No
Teacher explains safety concerns to children	38.5%	33.3%	45.2%	13.6%	Yes
Appropriate actions are taken to address safety concerns	56.4%	54.6%	31.0%	13.6%	No
None of these (i.e. there are safety concerns, but they are not addressed)	33.3%	30.3%	16.7%	18.2%	No
There are no safety concerns	–	–	43.9%	63.6%	No
Classroom's physical environment					
The classroom is well-ventilated	79.5%	72.7%	97.6%	86.4%	No
The classroom is accessible to children with disabilities	46.2%	24.2%	69.1%	27.3%	Yes
The classroom is properly lit	53.9%	27.3%	76.2%	59.1%	No
There are no hazards such as exposed foundations, cracked walls, exposed wires, hanging roofs, or blind spots that could cause accidents or injuries	71.8%	51.5%	76.2%	31.8%	Yes
The classroom has sufficient space for children to play games and participate in active learning	41%	30.3%	69.1%	22.7%	Yes
Classroom's literacy environment					
There are posters, signs, or other forms of text hanging on the classroom walls	20.5%	27.3%	64.3%	13.6%	Yes



Items, toys, or spaces are clearly labelled to support a literacy-rich environment	0%	0%	19.1%	0.0%	Yes
Classroom has an accessible area for shared large group reading	7.7%	6%	69.1%	22.7%	Yes
Students' work is displayed throughout the classroom	–	–	59.5%	0.0%	Yes
Behavioural management					
The teacher discusses misbehaviour with the child/children	38.5%	36.4%	42.9%	13.6%	Yes
The teacher involves the child/children in identifying a solution or alternative behaviour	43.6%	45.5%	42.9%	4.6%	Yes
The teacher remains calm, patient, and non-stressed when addressing misbehaviour	56.4%	33.3%	40.5%	18.2%	Yes
Teacher uses physical punishment to address misbehaviour	12.8%	3%	2.4%	4.6%	No
The teacher threatens, scolds, or shames the child/children	7.7%	9.1%	0.0%	0.0%	No
The teacher ignores misbehaviour	2.6%	3%	0.0%	18.2%	Yes
No misbehaviour observed	28.2%	36.4%	40.5%	50.0%	No
Teacher's encouragement towards children					
The teacher smiles during most of the lesson	79.5%	66.7%	83.3%	45.5%	Yes
The teacher uses positive, friendly, and caring body language and tone	74.4%	75.8%	95.2%	68.2%	Yes
The teacher encourages and actively acknowledges children, even if they give incorrect answers	66.7%	63.6%	90.5%	40.9%	Yes
Teacher's communication style					
The teacher uses age-appropriate language	84.6%	87.9%	100.0%	90.9%	Yes
The teacher adjusts volume and speed so s/he can be heard	69.2%	51.5%	81.0%	36.4%	Yes
The teacher rephrases questions or directions to children if children don't understand	64.1%	45.5%	81.0%	31.8%	Yes



The teacher actively shows s/he is listening when children speak	66.7%	45.5%	85.7%	27.3%	Yes
Gender participation					
The teacher gives girls and boys equal opportunities to participate in classroom activities	87.2%	84.9%	100.0%	50.0%	Yes
The teacher appears to give more opportunities to boys	5.1%	3%	2.4%	36.4%	Yes
The teacher appears to give more opportunities to girls	12.8%	0%	2.4%	9.1%	No
Gender equity and inclusion					
The teacher interjects and takes action when children display any gender-biased behavior towards their peers	59%	60.6%	54.8%	13.6%	Yes
The teacher encourages girls and boys to play non-traditional gender roles	74.4%	69.7%	64.3%	22.7%	Yes
When a behavioral issue occurs, the teacher responds according to the child and his/her development needs, and NOT their gender.	46.2%	30.3%	47.6%	18.2%	Yes
The teacher does not use derogatory language pertaining to children's gender when addressing them	43.6%	12.1%	26.2%	36.4%	No
The teacher does not predetermine rules of the activity based on gender-conformity	25.6%	9.1%	9.5%	13.6%	No
Inclusion of children living with disabilities					
Children with disabilities have a leadership role in the classroom	23.1%	6.1%	23.8%	4.6%	Yes
Children with disabilities actively participate in the classroom activities or discussions	23.1%	12.1%	23.8%	13.6%	No
Teacher modifies lesson and/or activity to include children with disabilities	23.1%	9.1%	21.4%	4.6%	No
Children with disabilities are ignored and not included in classroom activities/discussions	5.1%	0%	0%	0%	No
Children with disabilities are mocked, ridiculed, or verbally or physically abused by their peers and/or teachers	–	–	0%	0%	No



No children with disabilities in class	69.2%	84.9%	69.1%	86.4%	No
Child participation					
Most children share ideas, opinions, thoughts, and/or feelings with their teacher	66.7%	63.6%	85.7%	36.4%	Yes
Most children interact comfortably with their teacher (they do not look scared or hesitant)	84.6%	60.6%	90.5%	18.2%	Yes
Most children look relaxed (smiling, laughing, relaxed posture, no signs of anxiety/stress/worry, etc.)	64.1%	39.4%	81.0%	27.3%	Yes
Most children assist classmates in solving problems or understanding a question	38.5%	33.3%	69.1%	9.1%	Yes
None of the above	5.1%	18.2%	–	–	–
Participatory learning					
The teacher asks children closed questions (only one correct answer)	66.7%	57.6%	57.1%	100.0%	Yes
The teacher asks children open-ended questions (what, why, how questions)	48.7%	30.3%	78.6%	13.6%	Yes
The teacher creates opportunities for children to talk with each other about the lesson	48.7%	30.3%	73.8%	18.2%	Yes
The teacher creates opportunities for children to practice and expand on what they learn	51.3%	30.3%	71.4%	13.6%	Yes
The teacher gives children time and opportunities to ask questions	51.3%	24.2%	59.5%	9.1%	Yes
Children ask questions to the teacher without being prompted	–	–	35.7%	9.1%	Yes
The teacher responds positively to children's questions (i.e. without scolding or mocking them for having asked the question)	–	–	42.9%	13.6%	Yes
Play-based and RCA teaching approaches					
At the start of the lesson, the learning objectives for the lesson are made clear to the pupils	66.7%	66.7%	81.0%	40.9%	Yes



At the end of the lesson, the teacher provides time for students to discuss what was learned and reflect on their learning using the RCA questions for the lesson/activity	51.3%	27.3%	90.5%	4.6%	Yes
The teacher summarizes what was learned at the end of the activity/lesson	43.6%	27.3%	73.8%	18.2%	Yes
The teacher uses games and links the game to the lesson being taught	41%	27.3%	57.1%	4.6%	Yes
The teacher uses songs, art, or drama, and links these to the lesson being taught	33.3%	21.2%	47.6%	13.6%	Yes
The teacher asks students to perform tasks in small groups	23.1%	21.1%	50.0%	13.6%	Yes
Active vs passive teaching style					
Most of the time, the teacher is speaking/doing something, and the children are listening/watching	53.9%	39.4%	0.0%	72.7%	Yes
The teacher and children spend equal amounts of time speaking/doing something active	41%	45.5%	64.3%	22.7%	Yes
Most of the time the children are speaking/doing activities and the teacher is supervising	48.7%	12.1%	35.7%	0.0%	Yes
Use of space					
Most of the time, the teacher stands at the front of the class	–	–	0.0%	77.3%	Yes
The teacher spends equal time at the front of the class and walking around the class	–	–	76.2%	9.1%	Yes
Most of the time, the teacher is observed walking around the class	–	–	23.8%	9.1%	Yes
Child-led classroom activities					
Children are given opportunities to facilitate activities that contribute to the key message or learning (e.g., leading classroom discussions)	64.1%	63.6%	73.8%	27.3%	Yes
Children's facilitation roles are arranged with the children in advance and children are prepared for their facilitation	51.3%	24.2%	76.2%	13.6%	Yes
Children are given free time in which to structure their own activities or games	41%	24.2%	66.7%	18.2%	Yes



None of the above	25.6%	27.3%	–	–	–
Five key reading skills					
The teacher uses an activity to teach or review letters	59%	60.6%	61.9%	0.0%	Yes
The teacher uses an activity to teach or review sounds, rhymes, or syllables	46.2%	33.3%	50.0%	4.6%	Yes
The teacher uses an activity to teach or review new words/ vocabulary	48.7%	45.5%	64.3%	4.6%	Yes
The teacher reads aloud to students	–	–	47.6%	22.7%	Yes
The teacher asks students to read aloud (e.g., to the whole class, to a partner, or in small groups)	–	–	64.3%	27.3%	Yes
The teacher asks students to demonstrate their understanding/ comprehension of a story that was read in class (either by the teacher or by the students)	–	–	57.1%	13.6%	Yes
Playful reading aloud					
The teacher reads fluently and with expression (changes tone, makes voices for characters)	64.1%	66.7%	76.2%	50.0%	Yes
The teacher shows illustrations to all children	15.4%	18.2%	61.9%	54.6%	No
The teacher asks children questions about the story that relate to children's own lives	28.2%	21.2%	66.7%	13.6%	Yes
The teacher asks children problem-solving questions about the story	20.5%	21.2%	52.4%	13.6%	Yes
The teacher asks children predictive questions or asks children to imagine something about the story	20.5%	15.2%	61.9%	9.1%	Yes
The teacher gives children opportunities to discuss the story with each other, or other activities about the story in which children can interact with each other	25.6%	15.2%	61.9%	9.1%	Yes
The teacher does not read aloud to students	12.8%	3%	9.5%	0.0%	No

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.



Appendix 9. Children's safety tables

Table 38: Children's safety at home and in community

Observations	Baseline		Midline		Significant difference (at midline)?
	Project (N=367)	Non-project (N=378)	Project (N=427)	Non-project (N=444)	
Had to work to earn money to support family to buy school supplies	21.7%	23.7%	11.9%	21.8%	Yes
Left home because it was not safe	14.8%	10.1%	2.5%	4.8%	No
Lived in a community where the child did not feel safe	14%	12%	5.8%	10.3%	No
Lived in a home where people shout or yell at each other	17.2%	11.2%	16.9%	17.0%	No
Lived in a home where people push, slap, fight and throw something	14.3%	10.4%	9.9%	16.4%	Yes
Gone hungry any day last month because there was not enough food available	8.5%	9.8%	11.1%	16.4%	No
Family member been away from home for more than six months	21.2%	17.4%	23.4%	23.1%	No

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

Safety in school

Table 39: Children's safety in school

Safety behaviours, did any of this happen during the last week?	Baseline		Midline		Significant difference (at midline)?
	Project (N=367)	Non-project (N=378)	Project (N=427)	Non-project (N=444)	
Felt afraid in the school	13.5%	16.4%	17.1%	15.5%	No
Felt afraid on the way to school	22.5%	23.7%	19.5%	20.0%	No
Saw a child teasing another child to make them angry or bullying	44.7%	40.6%	46.5%	53.9%	Yes
Saw a child intentionally discarding another child from an activity/games	32.8%	33.2%	23.7%	36.1%	Yes
Heard a child in school said something mean to another child	42.1%	40.3%	27.5%	34.8%	Yes
Felt discarded by other students	34.9%	34.9%	26.3%	31.4%	No
Saw children in school get into a fight	35.9%	32.9%	14.8%	26.6%	Yes



and a child was hit					
Got into a fight where someone was hit	11.4%	9.5%	4.2%	5.5%	No
Saw someone in school threw something at a child to hurt them	42.3%	35.7%	20.0%	33.4%	Yes
Threw something to another child to hurt them	7.7%	9.3%	4.0%	4.1%	No

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

Safety from adults

Table 40: Children's safety from adults

Safety behaviours, did any of this happen during the last week?	Baseline		Midline		Significant difference?
	Project (N=367)	Non-project (N=378)	Project (N=427)	Non-project (N=444)	
Saw an adult in the school screaming or yelling at a child	17.5%	25.1%	11.0%	22.5%	Yes
Saw an adult in the school hitting or kicking a child in last 7 days	16.9%	21.3%	7.0%	16.8%	Yes
Heard an adult threatening to hurt a child	16.7%	15.8%	5.2%	9.8%	Yes
Faced any of the above-mentioned behaviours from an adult in the school (e.g. yelling, screaming, hitting, threatening)	18.5%	16.4%	4.9%	13.2%	Yes

Note: The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

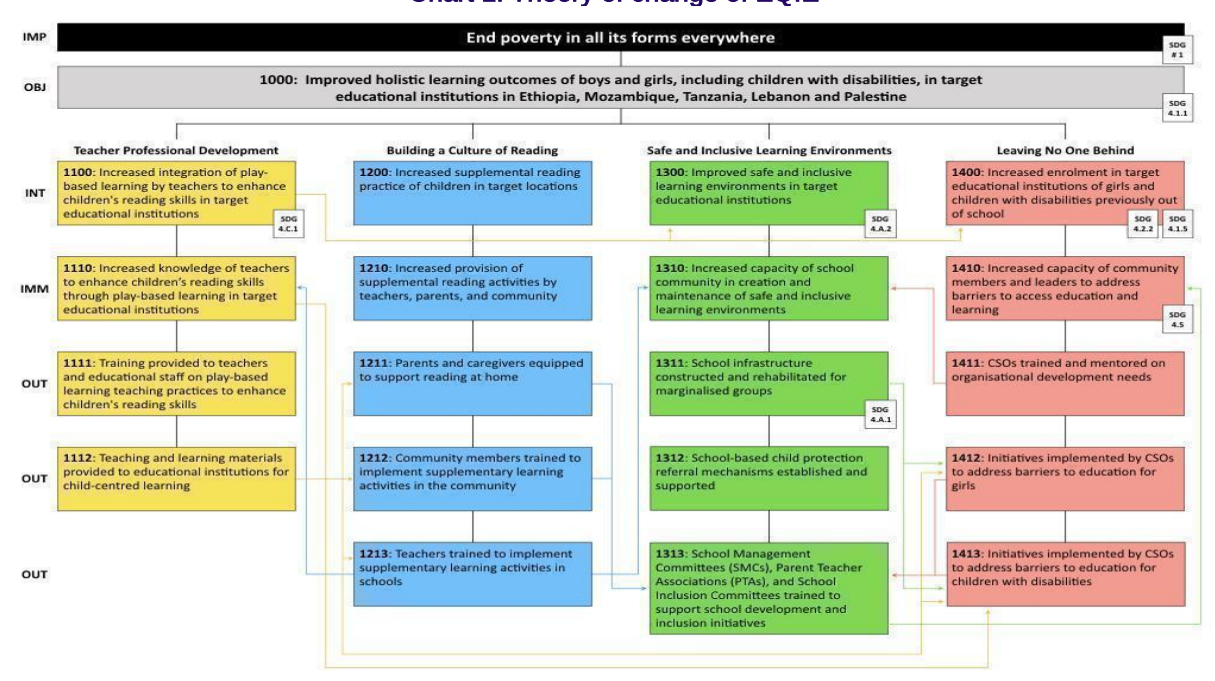


Appendix 10. Program Theory Assessment Results

9.1 Theory of change

RTP has been implementing a five-year long EQIE project in five countries (Ethiopia, Lebanon, Mozambique, Palestine, and Tanzania) from January 2020 to December 2024. The project had four core components: (i) teacher professional development, (ii) building a culture of reading, (iii) safe and inclusive learning environment, and (iv) leaving no one behind.

Chart 1. Theory of change of EQIE



Source: RTP, EQIE, MEL Plan 2021

9.2 Goal

Improve holistic learning outcomes of boys and girls including children with disabilities in targeted educational institutions in five countries

Assessment of the goal: The goal assumes that the combination of reading and SEL skills form holistic learning outcomes. While SEL and reading skills contribute to holistic learning and were the primary focus of the project, holistic learning encompasses other skills such as numeracy and writing which were not at the direct focus of the project. The goal does not reflect the leave no one behind campaign whose primary purpose was to bring out of schoolgirls and children with disabilities back to school more so than improving their learning outcomes.

9.3 Interventions & Implementation Logic

Component 1: Teacher professional development

Assumptions: The key assumptions under the component of teacher professional development were as follows:



- PBL training delivered through a cascade approach improves subject matter knowledge and awareness on reading strategies among teachers.
- The availability of teaching and learning materials aid teachers to apply PBL methods.
- Teachers enhance **their instructional practices** through **increased integration of Play-Based Learning (PBL)**, and continue to do so encouraged and supported by the locally available community of practice.
- The **improved pedagogical practices** contribute to improving **reading proficiency in students**.

Teacher training on PBL + community of practice → *improved instructional pedagogical practices* → improved reading and SEL skills

What worked? Teachers were able to transfer knowledge from the training to improve pedagogical practices. The availability of teaching and learning materials helped to improve the classroom environment.

What did not work? The community of practice was not as effective in encouraging teachers to continue applying PBL methods. Schools were not able to establish an autonomous mechanism to train new teachers who recently joined the school. The theory of change missed to take into account the external factors that might affect a teacher's motivation to improve their teaching learning practice. Teacher's motivation in applying PBL was central to the actual application of PBL methodology in the classroom and continuation of the improvement in pedagogical practices.

Component 2: Building a culture of reading

Assumptions: The key assumptions under the component of building a culture of reading were as follows:

- Reading clubs/centers together with distribution of reading materials help to increase engagement and participation of children in reading activities.
- Parents who participate in EQIE's orientation sessions support their children to read at home.
- All children will get the opportunity to read inside and outside school.
- The increased participation in reading activities leads to improved reading skills among children.
- The distribution of solar lights helps children to read during the evening for families that do not have access to electricity.

Reading center/club + supplementary materials + trainings/community level campaign + both inside and outside school → access to supplemental reading resources → *increased engagement and participation of children in reading activities* → improved reading skills

What worked? Reading clubs and reading materials attracted children to reading materials. Children with access to those facilities were able to read more than before. Parents who participated in the orientation sessions were more open in supporting their children to read while at home.



What did not work? Not all schools had reading clubs and not all centers were running regularly as expected. There were external factors affecting reading centers such as unavailability of public space to run activities, and the unsustainable structure that required locally hired facilitators to run the center. Reading clubs, managed and run by children with support from teachers, also faced challenges to regularly operate. As a result, many children did not get the opportunity to participate in the reading activities. Schools without libraries were not able to store and distribute the reading materials to children as expected.

Component 3: Safe and Inclusive Learning Environment

Assumptions: The safe and inclusive learning environment had the following vertical logic assumptions contributing to the goal:

- School stakeholders once trained and capacitated will be willing and able to set up child protection mechanisms in schools.
- The child protection mechanism in schools will help children to feel safer at school.
- School-level construction will help girls and children with disabilities to find schools safer and accessible.
- The community level campaigns will be helpful in eliminating harmful socio-cultural practices affecting children, especially girls and children with disabilities.
- Play-based learning will help improve teacher and student relationships by helping them to better communicate with each other and also by eliminating any form of violence against children.

Awareness, understanding, experience, acceptance, engagement, capacity building → positive attitude towards PBL + address barriers to education → Improved attendance and SEL skill

What worked well? PBL methodology helped to establish better relationships between teachers and children, particularly when such techniques were applied. Teachers adopted better disciplinary and participatory behaviors.

What did not work well? Although there was an indirect link between a safe school environment and better SEL skills, the connections were not directly established in the project. The implementation of the child protection mechanism and the application of punishment-free classroom teaching learning depended on the local stakeholders including teachers. The school-level construction, though helped to support development of an inclusive school environment, was expensive.

Component 4: Leave no one behind

Assumptions: The following were the assumptions relating to 'leave no one behind' component.

- Community level campaigns heighten awareness on the significance of education for children with disabilities (CWDs).



- The door-to-door campaigns help to identify and enroll out-of-school girls and CWDs back to school.
- The supplies (uniforms and educational materials) help to retain girls and children with disabilities in school.

Campaign, Identification and Supplies → heightened awareness on importance of education (for CWDs) → **improved identification and support** → increased enrollment and retention

What worked well? The assumptions related to door-to-door campaigns and re-enrollment to school worked as expected. The distribution of supplies offered a big help for parents and children who would not be able to afford to purchase those materials.

What did not work well? The assumption did not work for some children whose needs would only be met by a special school. The referrers would only work if a special school were available nearby.

9.4 Continue, stop & initiate

During the program theory assessment workshops, the project implementers identified three sets of activities (i) activities that are worth continuing based on their relevance to drive the implementation logic as expected, (ii) activities that should be deprioritized given that the implementation logic was not as effective, and (iii) activities that need to be introduced because they have a higher chance to be true given the learning from the implementation.

Top priority (Activities you would continue)
• Teacher training on PBL • Parental campaign on education specifically on girls and children with disabilities • Door-to-door campaign and school supplies to bring back children to school. • Reading clubs in schools • Provision of reading and learning materials • Community of Practice and creating support mechanism for teachers • Orientation for parents
Low priority
• Community level awareness raising campaign on harmful social practices and other topics. • Community level reading centers • School-level construction support
New
• School libraries/stores to distribute books • Materials and incentives for teachers • Orientation to parents through parent teacher association



Appendix 11. Baseline ISELA Test Questions

Table 41: Baseline ISELA Test Questions

Section	Questions
Household Literacy Environment	Who do you live with?
	In the past week, have you seen anyone in your home reading?
	In the past week, has someone in your family helped you with your homework?
	In the past week, has a family member read to you?
	In the past week, has a family member told you a story?
	In the past week, has a family member played literacy games with you?
	Do you talk to anyone at home when you are sad?
	Do you talk to anyone else at home when you are sad?
	Do you ask anyone at home for help when you have a problem with a friend?
	Do you ask anyone else at home for help when you have a problem with a friend?
	If you are working on something difficult, do you ask anyone at home for help?
	If you are working on something that takes a lot of time and it is difficult to finish, do you ask anyone else at home for help?
	Do you know when someone in your home is feeling sad?
	Can you tell me the names of your good friends?
	Do you talk to any of your friends at home or school when you are sad?
	When you have a problem with another child, do you ask any of your friends at home or school for help?
	If you are working on something difficult, do you ask any of your friends for help?
	Do you know when your best friend is feeling sad?
	What are some good ways to show teamwork?
	In the last week, have you played a game with friends?
	In the last week, have you worked with friends on coursework/homework?
	In the last week, have you worked with a friend to accomplish a common goal?
	Now, I want you to think about adults who you talk to almost every day in your school and community. Can you tell me which adults you talk to almost every day?
	Do you talk to any adult in your school when you are sad?



	Do you ask any adult in your school for help when you have a problem with a friend?
	If you are working on something difficult, do you ask an adult in your school for help?
	Do you know when an adult in your school or community is feeling sad?
	If you or a friend were being harmed by someone else, what would you do?
Community Literacy Environment	Over the past week, did your teacher read to you?
	Over the past week, did your teacher ask you questions about what you read?
	Over the past week, did you read with a classmate in school?
	Over the past week in school, did you read quietly by yourself without help?
	Over the past week, did you learn songs or games in class?
	Over the past week, did your teacher teach you the sounds of letters and words?
	Do all your friends come to school regularly? If no, why not?
	Do all the children your age in your community go to school? If no, why not?
	Do you attend after-school reading activities, like reading camps, reading centers, or reading days out? If yes, did you attend last week?
	Do you participate in out-of-school reading activities, like those available through radio, TV, or mail? If yes, did you attend last week?
Stress Management	Can you tell me one thing you do to calm down when you are angry or upset?
	Can you tell me another thing you do to calm down when you are angry or upset?
	Is there anything else you do to calm down when you are angry or upset?
Empathy A	Materials: Picture card of a girl and boy crying. Place the picture in front of the child and say: Now let's look at these pictures. How do you think these children are feeling right now?
	What would you do to help them feel better?
	Is there anything else you would do to help them feel better?
Empathy B	Now I will tell you a story about these children and why they are crying. One day the teacher told all the children in the classroom to make a line so that they can go out to play. All the children rushed to make a line. As they were making the line another child bumped into these children. They fell down and hurt their knees. This is why they are crying in this picture.
	Why did the other child bump into these children while making a line?
	How do you think the other child felt after they started crying?



Empathy C	Materials: Picture card of an angry girl and boy. Place the picture in front of the child and say: Now let's look at this picture. How do you think these children are feeling right now?
	What would you do to help them calm down?
	Is there anything else you would do to help them calm down?
Empathy D	Now I will tell you a story about these children and why they are angry. They have just finished a beautiful drawing for school. They worked on it for a long time and they are really proud of it. Another child came over to look at the drawing. This other child was holding a glass of water. The children turned away for a minute and when they looked back, the other child had spilled water all over the drawing.
	Why did the other child spill water all over the drawing?
	How do you think the other child felt when the children got angry?
Perseverance/ Attention Span	Materials: Card with shapes on it. We will now play a game. First, can you tell me which hand you use to write your name? For this game, you should ask the child to draw using their non-dominant hand. If they use their right hand to write their name, they should use their left hand in the game. If they use their left hand to write their name, they should use their right hand in the game. I am going to show you a picture and I want you to use your <non-dominant> hand to draw that picture. You must always use your <non-dominant> hand. You can use your other hand to hold the paper but you cannot draw using that hand. If you get frustrated or you feel like you want to stop drawing please tell me. We will then move to the next activity. Okay? Are you ready to play this game? 1) Show the child the first laminated card. Give the child 60 seconds to draw the picture. At 20 and 40 seconds if the child is still drawing, say: You can stop at any time and we can move to the next game. IF THE CHILD GIVES UP BEFORE 60 SECONDS THEN MARK "INCORRECT" and the survey will move to the next section. IF THE CHILD FINISHES THE DRAWING WITHIN 60 SECONDS OR IS STILL DRAWING AT THE END OF 60 SECONDS, MARK "CORRECT." If the child is still drawing at the end of 60 seconds tell him/her that he/she has done well and that you will now move to the next drawing. 2) Follow the same instructions as above for each shape.
	Child completed first drawing OR was still drawing at the end of 60 seconds
	Child completed second drawing OR was still drawing at the end of 60 seconds
	Child completed third drawing OR was still drawing at the end of 60 seconds
	Child completed fourth drawing OR was still drawing at the end of 60 seconds
Solving Conflict A	I want you to imagine a situation where you are playing with a toy that you like. Another child wants to play with that same toy, but there is only one toy.
	What would you do in this situation?
	Is there anything else you would do?



Solving Conflict B	Now, I want you to imagine the same situation: you are playing with a toy that you like, another child wants to play with the same toy, but there is only one toy. This time the other child takes the toy away from you and starts playing with it without asking you.
	What would you do in this situation?
	Is there anything else you would do?
Learning Environment Safety	In the last week, did you feel afraid in your school?
	In the last week, did you feel afraid on your way to your school?
	In the last week, did a child in your school tease another child to make them angry?
	In the last week, did a child in your school leave out another child from an activity or game?
	In the last week, did a child in your school say something mean to another child?
	In the last week, did a child do any of these things to you?
	In the last week, did children in your school get into a fight where someone was hit?
	In the last week, did you get into a fight where someone was hit?
	In the last week, did anyone in your school throw something at a child to hurt them?
	In the last week, did you throw something at a child to hurt them?
	In the last week, did an adult in your school scream or yell at a child?
	In the last week, did an adult in your school hit or kick a child?
	In the last week, did an adult in your school threaten to hurt a child?
	In the last week, did an adult in your school do any of these things to you?
Self-concept	I want you to think about something you hope will happen in your life in the future. It can be anything and at any time in the future—1 year, 5 years, 10 years, any time in the future. I would like you to make a drawing of what you hope for in the future. You can draw whatever you want. There are no right or wrong ways to do the drawing. After you finish your drawing, I will ask you a few questions about your drawing. If the child is hesitant or self-conscious about their drawing abilities, say: Whatever you want to create in the drawing and share with me is fine. If the child does not want to do the drawing then say: I want you to imagine something you hope will happen in your life in the future. Some children may make a drawing that does not represent something in the future (e.g.: drawing a flower); this is okay. Do not try to direct the drawing of the child or give them hints on what to draw. Give the child approximately five minutes to complete the drawing. If the child is still drawing at the end of five minutes, encourage him/her to complete the drawing by saying: I am going to give you one more minute to finish your drawing and then I want to



	ask you a few questions about your drawing. Once the drawing is complete, say something affirmative like: You worked hard on that drawing. Thank you for sharing this with me. I would like to ask you a few questions about the drawing. Child attempted drawing: If child refused to draw and instead used his/her imagination please mark "Incorrect" If child refuses to do drawing or imagine themselves in the future, mark "No response"
	Child includes self in drawing.
	Can you describe what you hope will happen in your life in the future?
	Can you tell me one thing that could happen that would stop you from reaching what you hope to succeed in the future?
	Can you tell me who or what will help support you in reaching what you hope to succeed in the future?
	Can you tell me one other thing that you hope will happen in your life in the future?
	Can you tell me one thing that could happen that would stop you from being angry?
	Can you tell me who or what will help support you in overcoming your anger?



Appendix 12. Validation workshop report

Background

Impact Loop, through a local consultant, hosted two district-specific validation workshops organized and coordinated by RTP. The first workshop took place in Serengeti DC on March 25, 2024, attended by 36 stakeholders, including 22 males and 14 females. Participants included 26 teachers/headteachers, 4 Ward Education Officers, 4 parents, and 2 School Quality Assurance Officers (SQA). The workshop lasted for 4 hours where the consultant presented key findings that were discussed by the stakeholders. The following day, March 26, 2024, another workshop was held in Tarime District, with 40 participants—30 males and 10 females. This session saw attendance from 26 teachers/headteachers, 3 Ward Education Officers, 1 District Education Officer (Sports), 6 parents, and 4 School Quality Assurance Officers (SQA).

Key Comments, Questions & Suggestions

Table 42: Key comments, questions and suggestions

Evaluation	Specific Section	Comment from Participants	Evaluator's Response
EQ1	Analysis	Analysed by location, rural vs urban as despite there is improvement in reading comprehension classroom quality and reading comprehension, some schools still need more support. Further, we should include which schools scored higher and which schools scored low.	The average scores were distributed evenly by scores. The project did not have a differential impact by schools.
EQ1	Reading Fluency	There was an aspect of peer coaching and mentorship by students. Both the supporting and the supported student were awarded when helped student manages to read	Addressed. The information was acknowledged in the report.
EQ2	Unavailability of materials	This finding was objected to because RTP had trained teachers to use teaching materials or create teaching materials using locally available tools. This answered a question of sustainability also.	The fact stands that 20% of schools did not have teaching and learning materials in the classroom. The evaluation acknowledges that there were efforts made to sustain the availability of materials.



Evaluation	Specific Section	Comment from Participants	Evaluator's Response
EQ2	Overcrowded classrooms and limited space hinder teachers' ability to use play-based learning strategies. There was a high student-teacher or student-class ratio that interfered with their ability to deliver play-based learning effectively.	This was not well comprehended by the participants.	We have confirmed that these findings come from direct quote of parents and teachers.
EQ2	Multilingual nature of classrooms	This is the case for only standard 1 and pre-primary students. And to be specific when we say another language, we should specify, "Local/vernacular language."	Changes made to reflect that the challenge is specific to lower grades.
EQ2	This might be because schools have already used all the materials provided by RTP	It was expected that teachers would make their own using locally available materials so was rejected as being a challenge to implement PBL	Revisions made. The evaluation acknowledges that there were efforts made to sustain the availability of materials.
EQ2	Their payment, promotion, and career prospects were independent of how they applied play-based learning.	This finding was objected to as promotion and salary increment is independent of PBL because PBL is not something new but is integrated in the curriculum. It is integrated in the new competency-based curriculum of 2023. If it is for intervention of EQIE then it is not appropriate because EQIE is not a national wide project.	Revisions made to reflect that there are already some efforts made in that direction.
EQ5	Lack of Quantitative data on Impact of Supplemental activities	Participants were able to show that supplemental activities contributed to improved reading and SEL. Data is available. It was mentioned that including quantitative evidence under this is key. Some examples were provided that some schools have been able to reduce the number of students who could not read and write in 12 months.	To separate out the effect of supplemental activities on children's learning, we would need a separate experiment. This is reflected in the recommendations.



Evaluation	Specific Section	Comment from Participants	Evaluator's Response
EQ5	Because the centers were run by volunteers who were not adequately trained in reading skills,	Add its management to the recommendation but also, they should be under the school's administration. New recommendation: Engage school administration on contracting coaches/volunteers of the reading centers in the community for management and supervision of reading centers	We have reflected the suggestion in the report.
EQ5	The mechanism was clearly not sustainable without a clear financing and operating mechanism.	Those funded by parents can be sustained but some depend on RTP. Transportation of teachers and students to reading competitions. Though the RTP policy restricts transportation of students. Sport materials such as balls may be missing	Points noted.
EQ5	Positive attitude, and ownership mindset to continue the pedagogical practices, and safe/inclusive learning environment activities of the project?	The Participants highlighted that PBL can be sustained, reading clubs can be sustained, and reading centers can be sustained because coaches are compensated by parents though not all parents pay (sustainability can be in question to schools which parents do not pay the volunteers). However, the coaches in Reading centers in the community are not accountable to teachers nor the quality assurers hence their control is challenging. Also, reading centers need to be institutionalised.	We have reflected this in our report.
Recommendations	Set up reading clubs inside schools and set up an easy procedure for children to borrow reading materials to take home.	This is not new as reading clubs happen in schools and reading centers are in the community. So, setting reading clubs inside schools int a new finding	This finding was about scaling to other schools, not about improving.
Recommendations	Leverage Cash on parental aspirations for children to strengthen parent-teacher-children communication loops.	Here there was a suggestion to promote parents to see the importance of contributing the stipends of reading centers to sustain them.	The evaluation team does not recommend creating an additional dependency on the EQIE by providing stipends.



Conclusion

All participants at the workshop engaged actively in the discussions, contributing a variety of insightful comments, questions, and suggestions that RTP will consider. They also showed great interest in the project, particularly because it focuses on enhancing children's social emotions and wellbeing but also increasing literacy levels.

Appendix 11.1 List of participants who attended the validation workshop

1. List of participants – Serengeti DC

EQIE MIDLINE VALIDATION WORKSHOP

VENUE: RC CHURCH MUGUMU DATE: 25/03/2024
 REGION: MARA DISTRICT: SERENGETI DC

S/N	NAME OF STAKEHOLDER/JINA LA MDAU	SEX/JINSI (ME/KE)	STAKEHOLDER TYPE/AINA YA MDAU	PHONE/SIMU	AMOUNT/ KIASI	SIGNATURE/SAINI
1	PASSOVER-S-MAREMA	ME	MWALIMU	0621977089	45,000	<i>[Signature]</i>
2	LUGEGA SAMUEL SINGH	MR	MWALIMU	0743 892 056	45,000	<i>[Signature]</i>
3	MASWE CHACHA MASWE	ME	MWALIMU/MBAZI	0754462345	45,000	<i>[Signature]</i>
4	HAPPINESS P. MUNISI	KE	MWALIMU	0783662230	45,000	<i>[Signature]</i>
5	SABINA M. MWISHAURI	KE	AER	0753586536	45,000	<i>[Signature]</i>
6	GABRIEL SPURION	ME	MBAZI	0762264909	45,000	<i>[Signature]</i>
7	VENERANDA RICHARD	KE	M/MKUU	0783659840	45,000	<i>[Signature]</i>
8	HALIMA ISMAIL	KE	MBAZI	0621041664	45,000	<i>[Signature]</i>
9	JOSEPH M. SIMEON	ME	M/MKUU	0753646989	45,000	<i>[Signature]</i>
10	SAMUEL M. MAREMA	ME	M/MKUU	0755042299	45,000	<i>[Signature]</i>
11	FIDEL S. NYABKE	ME	AER	0788588005	45,000	<i>[Signature]</i>
12	JUDITH J. MAHEMBA	KE	MBAZI	0787357236	45,000	<i>[Signature]</i>



S/N	NAME OF STAKEHOLDER/JINA LA MDAU	SEX/JINSI (ME/KE)	STAKEHOLDER TYPE/AINA YA MDAU	PHONE/SIMU	AMOUNT/ KIASI	SIGNATURE/SAINI
13	SUBIRA R. MOHAMED	KE	MWL/MKUU	0755662617	45,000	
14	AZIZA M. HUSENI	KE	MWALIMU	0788592292	45,000	
15	ANNA W. NYAGAWA	KE	MWL/MKUU	0742341820	45,000	
16	YALI H. BAYO	KE	MWALIMU	0766114824	45,000	
17	RACHAEL G. REUCATU	KE	MZATI	0693433855	45,000	
18	EDMUND K. EDWIN	ME	MWALIMU	0699726242	45,000	
19	STANLEY J. STANLEY	ME	MWALIMU	0766961861	45,000	
20	TATU RYBA	KE	MWALIMU	0694811827	45,000	
21	NYOYO N. ANDREA	ME	SQA	0787281845	45,000	
22	ALBERT A. KUXUNGA	ME	SQA	0754990507	45,000	
23	GASTON F. KITBWI	ME	MWALIMU	0684838093	45,000	
24	JACKOB M. MICHAEL	ME	MWALIMU	0782711679 0789628838	45,000	
25	MGAYA Z. CHACHA	ME	MWALIMU	0620716822	45,000	
26	ANTONY D. KAVISHE	ME	MWALIMU	0746404469	45,000	
27	MARO MASWE MAKURU	ME	MWL/MKUU	0787221824	45,000	
28	EMMANUEL M. GIRATTA	ME	MWL/MKUU	0763503701	45,000	
29	EMMANUEL D. MTIMINGI	ME	MWALIMU	0717583597	45,000	



S/N	NAME OF STAKEHOLDER/JINA LA MDAU	SEX/JINSI (ME/KE)	STAKEHOLDER TYPE/AINA YA MDAU	PHONE/SIMU	AMOUNT/ KIASI	SIGNATURE/SAINI
13	SUBIRA R. MOHAMED	KE	MWL/MKUU	0755662617	45,000	
14	AZIZA M. HUSENI	KE	MWALIMU	0788592292	45,000	
15	ANNA W. NYAGAWA	KE	MWL/MKUU	0742341820	45,000	
16	YALI H. BAYO	KE	MWALIMU	0766114824	45,000	
17	RACHAEL G. REUCATUS	KE	MZATI	0693433855	45,000	
18	EDMUND K. EDWIN	ME	MWALIMU	0699726242	45,000	
19	STANLEY J. STANLEY	ME	MWALIMU	0766961861	45,000	
20	TATU RYBA	KE	MWALIMU	0694811827	45,000	
21	NYOYO N. ANDREA	ME	SQAO	0787281845	45,000	
22	ALBERT A. KUXUNGA	ME	SQAO	0754990507	45,000	
23	GASTON F. KITBWI	ME	MWALIMU	0684838093	45,000	
24	JACKOB M. MICHAEL	ME	MWALIMU	0782711679 0789628838	45,000	
25	MGAYA Z. CHACHA	ME	MWALIMU	0620716822	45,000	
26	ANTONY D. KAVISHE	ME	MWALIMU	0746404469	45,000	
27	MARO MASWE MAKURU	ME	MWL/MKUU	0787221824	45,000	
28	EMMANUEL M. GIRATTA	ME	MWL/MKUU	0763503701	45,000	
29	EMMANUEL D. MTIMINGI	ME	MWALIMU	0717583597	45,000	

2. Participants – Tarime DC



FOIE MIDLINE VALIDATION WORKSHOP

VENUE: TARIME TEACHERS COLLEGE DATE: 26/02/24

REGION: MARA DISTRICT: TARIME DC

S/N	NAME OF STAKEHOLDER/JINA LA MDAU	SEX/JINSI (ME/KE)	STAKEHOLDER TYPE/AINA YA MDAU	PHONE/SIMU	AMOUNT/ KIASI	SIGNATURE/SAINI
1	YUSUPH S. KASANDA	ME	M/MKUU	0757 942239	45,000/-	[Signature]
X 2	NYAMUNGU M. EMMANUEL	KE	X MICHEZO	0716396687	45,000/-	[Signature]
3	ABEL E. MOSHA	ME	MWALIMU	0622903632	45,000/-	[Signature]
4	ESTER N. CHARLES	KE	M/MKUU	0762549732	45,000/-	[Signature]
5	SELINA N. MARWA	KE	MZAZI	0750462931	45,000/-	[Signature]
6	Robi J. Chacha	KE	MZAZI	0753224818	45,000/-	[Signature]
7	THOMAS B. HACHWA	ME	MWALIMU	0748308290	45,000/-	[Signature]
8	THOMAS F. MATEGELA	ME	MWALIMU	0686352628	45,000/-	[Signature]
9	SALDI ISAI ALI	ME	MWALIMU	0620409272	45,000/-	[Signature]
10	MUSSA A. JOSEPH	ME	MWALIMU	0785988030	45,000/-	[Signature]
X 11	WASIH BANKA RAJAB	ME	M/MKUU	0766815328	45,000/-	[Signature]
12	JOSEPH SISELE	ME	MWALIMU	0757507175	45,000/-	[Signature]

0624402313

0614903632
0686805606
06232525
42

13	PAULO DESDERI AKONDAY	ME	M/MKUU	0755897124	45,000/-	[Signature]
14	ALFRED MAGULI MLIANA	ME	M/MKUU	0756818915	45,000/-	[Signature]
15	MOHAMMED MOHRE GOZZA	ME	MWALIMU	0752541109	45,000/-	[Signature]
16	SHABIRACK NGULI JULIUS	ME	M/MKUU	0752572255	45,000/-	[Signature]
17	REVOCATUS THORIAS MCHUCHI	ME	MWALIMU	0687381290	45,000/-	[Signature]
18	GICHIGO ROBERT MTUNDI	ME	M/MKUU	0689594462	45,000/-	[Signature]
19	JUMA MWENULA WILSON	ME	M/MKUU	0783583115	45,000/-	[Signature]
20	RAMADHANU HAMISI NYUMBE	ME	MWALIMU	0764822348	45,000/-	[Signature]
21	ELIATH RYDRA NYATELE	ME	MZAZI	0799255269	45,000/-	[Signature]
22	SAMSON ISAAC MACARYA	ME	M/MKUU	0757088298	45,000/-	[Signature]
23	HILDA MBONEN MUKAGI	KE	MWALIMU	0694421487	45,000/-	[Signature]
24	FLORA OIENO NYEMERIA	KE	M/MKUU	0782584822	45,000/-	[Signature]
25	ANIELIMO M. KUUMTE	ME	M/MKUU	0755799235	45,000/-	[Signature]
26	BHOKE MARWA NYAMOHASHI	KE	MZAZI	0755799235	45,000/-	[Signature]
27	JAMES MATHUKO MAREGE	ME	AFK	0756812162	45,000/-	[Signature]
28	GABRIEL ERNEST BCHIDO	ME	M/MKUU	0627621738	45,000/-	[Signature]
29	HAMUS RAMADHAN IKIHA	ME	M/MKUU	0782247886	45,000/-	[Signature]

0626-052035

0756799768
0626-052035



S/N	NAME OF STAKEHOLDER/JINA LA MDAU	SEX/JINSI (ME/KE)	STAKEHOLDER TYPE/AINA YA MDAU	PHONE/SIMU	AMOUNT/ KIASI	SIGNATURE/SAINI
✓ 30	SR. LEONILLA E. MASALI	✓	✓ DPPAD	0767831331	45,000	
✓ 31	MOKONO G. JOSEPH	ME	AEK	0754820222	45,000	
✓ 32	GEORGEY M. DENIS	ME	AEK	0625897338	45,000	
✓ 33	MUTIKO W. ASHERI	ME	MIM	0682198189 0764214348	45,000	
✓ 34	NAOMI ELIA WANDIKA	KE	MZAZI	0719318175	45,000	
✓ 35	STEPHANO MIRUMBE RICHARD	ME	MWALIMU	0625814264	45,000	
✓ 36	MWITA MTUNDI MATIKO	ME	MIM	0742886168	45,000	
✓ 37	BIBIANA M. JOSEPH	KE	SQA	0755862566	45,000	
✓ 38 x	ABASI M. MUNDE	ME	SQA	0758172215	45,000	
✓ 39	JUMA MATIKO MAJENGO	ME	SQA	0785685858	45,000	
✓ 40	ELIA WAXA	ME	MZAZI	0754993351	45,000	
✓ 41	Daud Sinalaze	ME	Consultant	0765273270	45,000	
42				0714067200	N/A	
43						
44						
45						
46						